WEST VIRGINIA UNIVERSITY

The 1952-53 Catalog

MARY BAYLES

MEN'S RESIDENCE HALL is one of three dormitories on campus: fraternity, sorority houses, off-campus homes, veterans unit provide housing for students.

SPECIAL WEEKENDS give students chance to set up and show exhibits to University visitors. This work gives students fine leadership training.

MODERN, well-equipped classrooms aid student study. Students also study outdoors, in modern laboratories, visit industrial and business establishments.

COLLEGE OF LAW Building is one of 48 buildings on University campus. New Physics Building was completed in 1952. Work is underway on Music Building.

FORESTRY summer camp, agricultural experiment farms, and special outdoor summer courses give students actual on-the-job training.

LIBRARY, recently enlarged, has 244,000 volumes, millions of manuscripts which aid study and research, keep students up on developments in all fields.

GLEE CLUBS, bands, University Players, clubs, and other organizations give University students cpportunity for educational advancement and enjoyment.

MODERN equipment such as that used in Coal Preparations Laboratory helps students grasp new ideas and carry on important research.

NEW SWIMMING POOL at Mountainlair, student recreation center, was opened in 1951. Swimming facilities for women are located in Elizabeth Moore Hall.

MOUNTAINLAIR snack bar is one of the most popular places on campus. Student recreation center has reading, music, motion picture rooms.

HEALTH of students is guarded by full-time doctors and nurses of health Service. Building has 22-bed infirmary, treatment, and examination rooms.

STUDENTS can obtain friendly advice on almost any problem from Director of Student Affairs. Faculty advisers also aid student plan study programs.

PLACEMENT OFFICE assists students in finding part-time employment while in school, or full-time jobs upon graduation in field of their choice.

WEST VIRGINIA UNIVERSITY

The 1952-53 Catalog

ANNOUNCEMENTS OF THE 1952-53 SESSION

STAFF AND DATA OF THE 1951-52 SESSION

WEST VIRGINIA UNIVERSITY BULLETIN

CORRESPONDENCE

Correspondence should be addressed as follows:

ADMISSION
Registrar

ALUMNI MATTERS
Alumni Secretary

CATALOG, ANNOUNCEMENTS
Registrar

EMPLOYMENT OF SENIORS AND ALUMNI
Placement Bureau

HOUSING
On campus: Business Director of Residence Halls
Off campus, men: Office of Off-campus Housing
Off Campus, women: Dean of Women

INFORMATION
Bureau of Information

MATTERS OF GENERAL UNIVERSITY INTEREST
The President

VETERANS AFFAIRS
Veterans Coordinator

WEST VIRGINIA UNIVERSITY, MORGANTOWN, W. VA.

SERIES 52, NO. 9-1 - WEST VIRGINIA UNIVERSITY BULLETIN - MARCH, 1952

The *West Virginia University Bulletin* is issued monthly throughout the year. Publications included are the *Announcements* of the College of Arts and Sciences, the College of Agriculture, Forestry, and Home Economics, the College of Commerce, the College of Education, the College of Engineering and Mechanic Arts, the Division of Forestry, the School of Journalism, the College of Law, the School of Medicine, the School of Mines, the School of Music, the College of Pharmacy, the School of Physical Education and Athletics, the Graduate School, and the Summer Session; the *Catalog* number; bulletins of the College of Engineering and the School of Mines; other scholarly and scientific publications; and the *Proceedings* of the West Virginia Academy of Science.

CONTENTS

The Board of Governors 4
Administrative Officers and Standing Committees 5
Campus Map 8

Part I: General Information

West Virginia University 11
University Life 20
Admission, Registration, Fees 47

Part II: Curricula and Courses

The College of Agriculture, Forestry, and Home Economics 67
The College of Arts and Sciences 117
The College of Commerce 202
The College of Education 213
The College of Engineering and Mechanic Arts and the School of Mines 231
The Graduate School 281
The School of Journalism 287
The College of Law 299
The School of Medicine 304
The Division of Military and Air Science and Tactics 321
The School of Music 324
The College of Pharmacy 336
The School of Physical Education and Athletics 344

Part III: The Staff

Alphabetical List of Staff 358

Part IV: Appendix

Degrees Conferred, 1870-1951 (tables) 379
The Classified Enrollment, 1951-52 (tables) 382
Geographical Distribution of Enrollment, 1951-52 (table) 385
Index 386
University Calendars 393

The Board of Governors

	TERM EXPIRES
E. G. Otey, *President,* Bluefield	1950
K. Douglas Bowers, *Vice-President,* Beckley	1953
E. G. Otey, *President,* Montgomery	1959
A. C. Spurr, Fairmont	1952
Charles E. Hodges, Charleston	1954
William G. Thompson, Montgomery	1955
Raymond E. Salvati, Huntington	1956
Thomas E. Millsop, Weirton	1957
Mrs. Paul Hammann, Martinsburg	1958
Thomas L. Harris, Parkersburg	1960

Irvin Stewart, *Chief Executive Officer,* Morgantown
Charles T. Neff, Jr., *Executive Secretary,* Morgantown

The Board of Governors has charge of the educational, administrative, financial, and business affairs of the University and Potomac State School of West Virginia University.

Administrative Officers

General

IRVIN STEWART, LL.B., A.B., A.M., PH.D., LL.D., *President of the University* (1946).
CHARLES THOMPSON NEFF, JR., A.B., LL.D., *Vice-president of the University and Comptroller* (1946), 1927.
EDNA ARNOLD, M.A., *Dean of Women* (1939), 1910.
CHARLES EDWARD BUTLER, M.A., IN L.S., *Librarian* (1949).
JOSEPH CLAY GLUCK, B.A., B.D., *Director of Student Affairs* (1949), 1943.
J. EVERETT LONG, M.A., *Registrar of the University* (1945), 1929.

Colleges, Schools, and Divisions

COLEMAN, RAYMOND W., PH.D., *Dean of the College of Commerce* (1952), 1948.
COLLETT, ARMAND RENE, PH.D., *Dean of the College of Arts and Science* (1951), 1924.
ROLAND PARKER DAVIS, PH.D., *Dean of the College of Engineering* (1945), 1911.
ROBERT BARCLAY DUSTMAN, PH.D., *Dean of the Graduate School* (1949), 1924.
GRIFFIN, GRACE MARGARET, M.A., *Acting Dean of the School of Physical Education and Athletics* (1951), 1923.
THOMAS PORTER HARDMAN, J.D., *Dean of the College of Law* (1931), 1913.
WELDON HART, PH.D., *Director of the School of Music* (1949).
JOSEPH LESTER HAYMAN, PH.C., M.S., *Dean of the College of Pharmacy* (1936), 1919.
JOHN OLIVER KNAPP, B.S.AGR., *Director of the Agricultural Extension Division* (1938), 1917.
WALTER ALLOS KOEHLER, PH.D., *Acting Director of the Engineering Experiment Station* (1946), 1924.
PERLEY ISAAC REED, PH.D., *Director of the School of Journalism* (1939), 1920.
SAMUEL ROTH, *Colonel, Infantry, U.S. Army, Head of the Military Division* (1949).
GAROLD RALPH SPINDLER, E.M., *Director of the School of Mines* (1948), 1934.
FORREST WILBUR STEMPLE, PH.D., *Dean of the College of Education* (1949), 1916.
EDWARD JERALD VAN LIERE, M.D., PH.D., *Dean of the School of Medicine* (1937), 1921.
HARRY ROSS VARNEY, PH.D., *Dean of the College of Agriculture, Forestry, and Home Economics, and Director of the Agricultural Experiment Station* (1950).

Heads of Other Administrative Offices

BETTY BOYD, A.B., *Executive Director, Young Women's Christian Association and Young Men's Christian Association* (1948).
ROY M. HAWLEY, A.B., *Director, Intercollegiate Athletics* (1943), 1935.
DAVID W. JACOBS, A.B., *Director, Bureau of Information; Alumni Secretary* (1938).
MARGARET CORNELIA LADWIG, PH.D., *Placement Adviser* (1949).
JOHN JOSEPH LAWLESS, PH.D., M.D., *Director, University Health Service* (1944), 1935.
JOHN LUCHOK, B.S.J., *Acting University Editor* (1951), 1950.
ERNIE BEVAN MCCUE, A.B., A.M., *Acting Director of University Extension* (1948), 1947.
ALVIN MARTIN MILLER, B.S.M.E., *Superintendent, Buildings and Grounds* (1945).
DELMAS F. MILLER, PH.D., *Principal, University High School* (1950), 1949.
JAMES MEREDITH PAULEY, B.S., *Veterans' Coordinator* (1949), 1948.
RUTH ELEANOR ROBINSON, A.M., *Manager, University Book Store* (1944), 1939.
WILLIAM D. SCOTT, M.S., *Director, Mountainlair* (1948), 1946.

Standing Committees*

THE UNIVERSITY

ADMISSIONS: The Registrar and the deans and directors of all colleges and schools admitting freshmen.

BOARD OF GOVERNORS SCHOLARSHIPS: Messrs. Holter, Black, C. H. Cather, J. L. Hall, and Long; Miss Arnold.

BUILDINGS AND GROUNDS: Messrs. A. M. Miller and Dye.

PERMANENT BUILDINGS: Messrs. Lazzell, Baldwin, H. M. Cather, R. S. Marsh, and F. P. Summers.

SPACE ALLOCATION: Messrs. Baldwin, Lazzell, Long, and A. M. Miller.

THE SENATE

EXECUTIVE COMMITTEE: President Stewart (chairman), Messrs. A. S. Abel, J. P. Brawner, J. E. Long, G. G. Pohlman, C. K. Sleeth, A. L. Sturm, Miss Ruth D. Nofr.

COMMITTEES: Messrs. H. A. Davis, A. D. Longhouse, M. E. Lugar, C. B. Seibert, and J. C. Stickney.

EXTENSION: Messrs. K. A. Cook, W. W. Armentrout, P. W. Gainer, J. O. Knapp, E. B. McCue, G. R. Spindler, and L. W. Welden.

INSTRUCTIONAL POLICIES AND PRACTICES: Messrs. R. R. Ashburn, M. Brooks, H. M. Cather, R. C. Colwell, H. A. Gibbard, M. L. Hobbs, and Benjamin Keen.

INTER-COLLEGE RELATIONS: Weldon Hart, and all other deans and directors.

LIBRARY: Messrs. C. E. Butler, E. K. Feaster, R. E. Foster, O. D. Lambert, E. H. Ludwig, and W. R. Ross.

MEMBERSHIP: Messrs. H. A. Gibbard, W. A. Koehler, and W. F. Manning.

PUBLICATIONS: Messrs. M. L. Vest, A. R. Collett, R. E. Foster, A. Goodspeed, J. Luchok, J. C. Ludlum, and F. P. Summers.

RESEARCH: Messrs. C. D. Thomas, W. D. Barns, H. D. Bennett, J. L. Hall, W. A. Koehler, D. F. Marsh, J. C. Townsend, A. H. VanLandingham, H. R. Varney, Dana Wells, H. G. Wheat, D. T. Worrell, and R. B. Dustman, ex officio.

STUDENT AFFAIRS: J. C. Gluck, Members to consist of the various chairmen of sub-committees and student affairs as appointed by the President.

STUDENT ELIGIBILITY: Messrs. C. L. Colson, Sam Boyd, J. C. Gluck, J. E. Long, C. K. Schultz, and K. Wood.

STUDENT ETHICS IN ACADEMIC WORK: Messrs. E. H. Ludwig, W. H. Baker, R. H. Black, W. H. Jarecke, and Miss Mavis Mann.

TEACHER EVALUATION: Messrs. C. C. Spiker, H. A. Gibbard, E. C. Jones, George Toben, and Miss Margaret Fulton.

TEACHER TRAINING: Misses Sara Smith and Ruth Noer; Messrs. J. P. Brawner, E. K. Feaster, C. W. Hill, F. J. Holter, B. R. McGregor, Delmas Miller, F. W. Stemple, and J. K. Stewart.

TENURE AND RETIREMENT: Messrs. R. W. Coleman, W. W. Armentrout, V. J. Lemke, M. E. Lugar, E. O. Roberts, and J. C. Slack.

ENGLISH PROFICIENCY BOARD: Messrs. Q. F. Curtis, T. C. Campbell, J. H. Clarke, J. P. Brawner, Earl Hudelson, L. Z. Seltzer, and L. W. Welden.

CONVOCATIONS: Messrs. Gluck, Manning, L. H. Taylor, and Wood; Miss S. R. Smith; student members, James D. Baker, and Helen Britton.

DISCIPLINE: Messrs. Cook and Sleeth; Mrs. Pettigrew.

STUDENT SCHOLASTIC RECORDS: Messrs. Peairs, L. E. Herod, and Semon; Mrs. Cole.

OFF-CAMPUS SCHEDULES: Messrs. Gluck, Hayman, and Collett.

PRIZES, SCHOLARSHIPS, AND LOAN FUNDS: Messrs. Gluck, H. M. Cather, Curtis, Long, and R. M. White; Miss Arnold.

SOCIAL AFFAIRS: Messrs. Gluck, McBride, Seibert, and Wells; Misses Arnold, Griffin, and Palmer; student members, Flora Jean Pfost, Iris Carol Dean, Robert S. Martino, and Roger G. Roberts.

*The first-named member serves as chairman.

STUDENT BODY: Jack B. Justice, president; Barbara J. Shumaker, vice-president; Harry Kincaid, Senior representative; Emogene Mehl Custer, Senior representative; Robert H. Fike, Junior representative; Wilma Sue Castrup, Junior representative; James F. Danter, Senior Class president; John R. Leeson, Junior Class president; William H. Dark, Sophomore Class president; George R. McGuire, Freshman Class president.

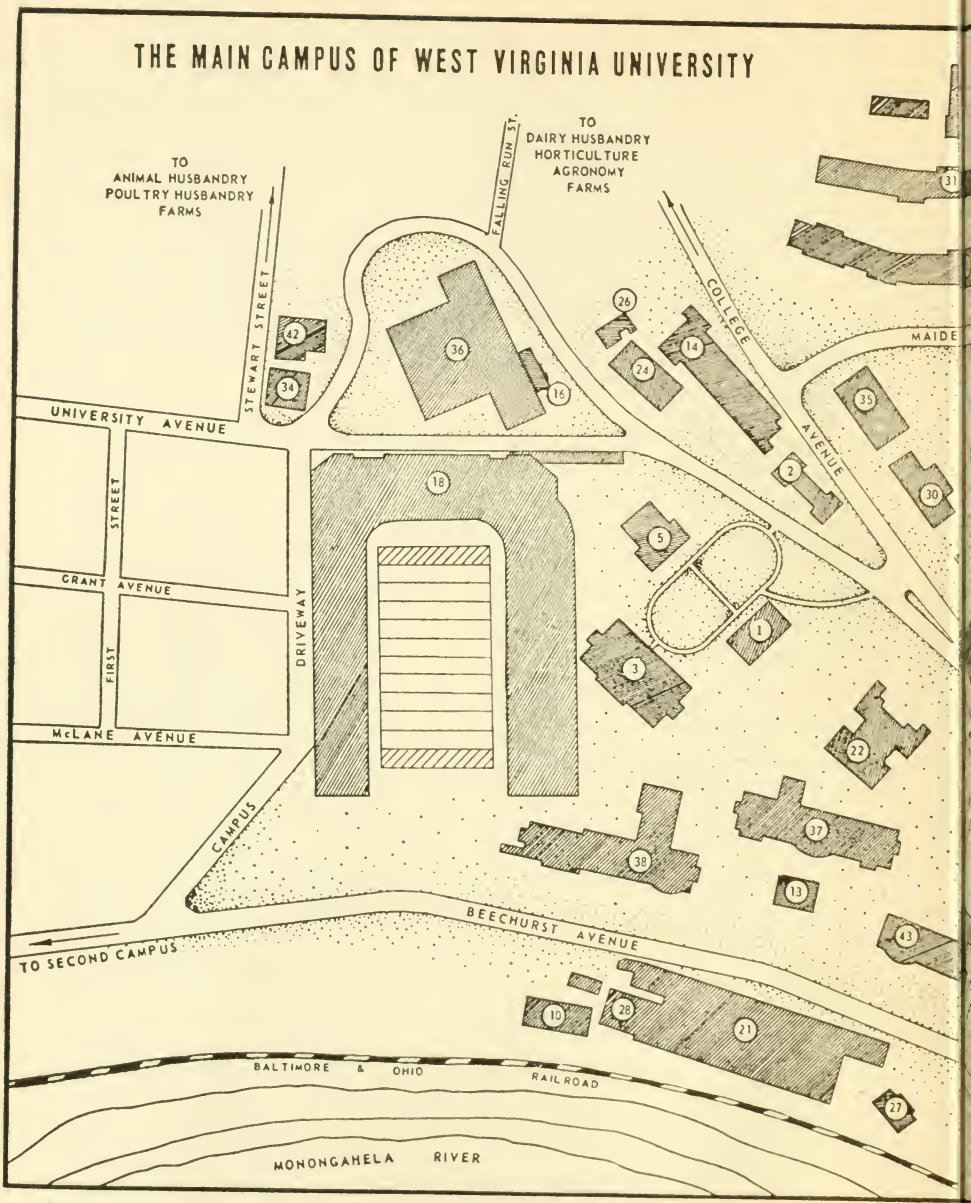
STUDENT FEE FUND: Mr. Gluck and Miss Arnold; student members, Jack Justice, Jeanne Rampp, and Edwin Flowers.

STUDENT ORGANIZATIONS: Messrs. Core, Gainer, and Holter; and Miss Mann.

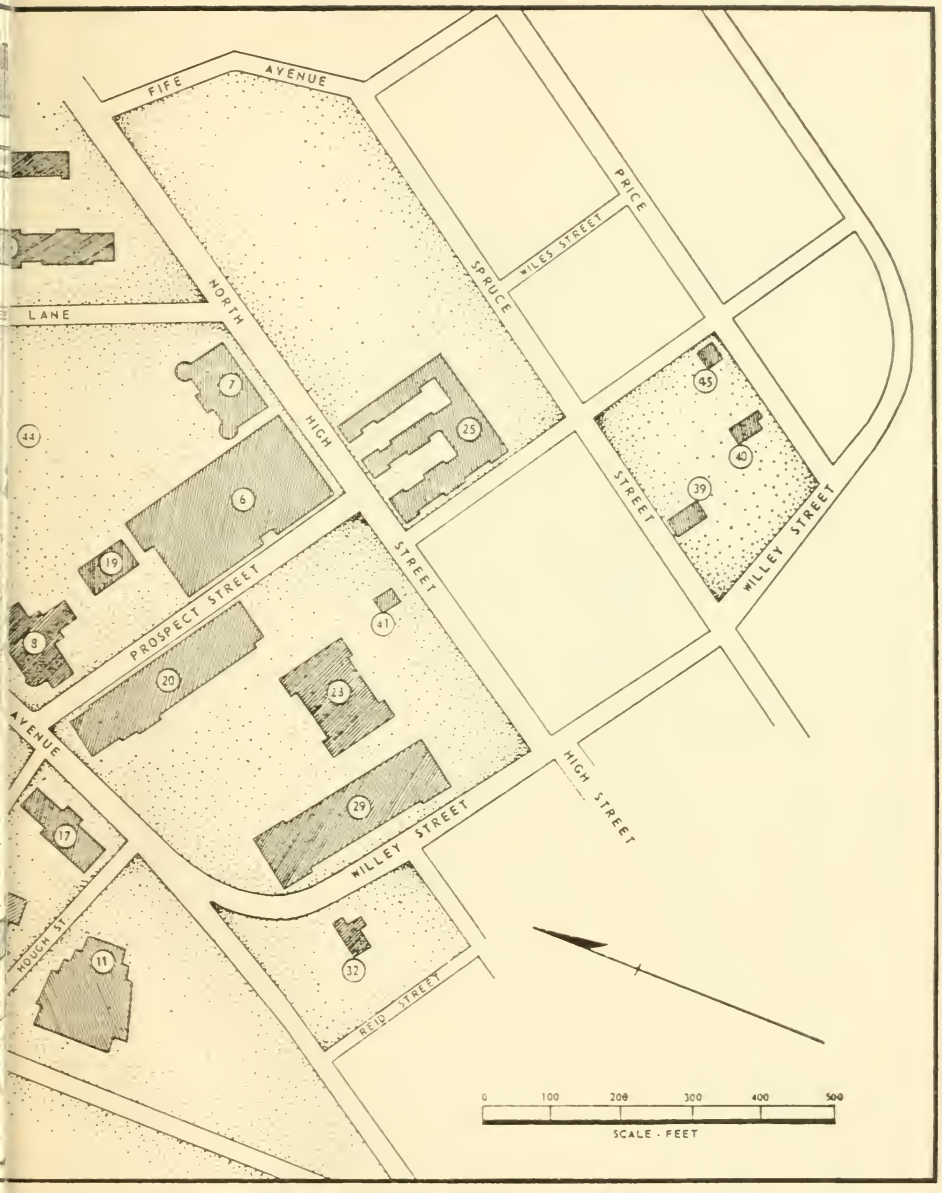
STUDENT PUBLICATIONS: Messrs. P. I. Reed, Gainer, Jeffrey, Nuzum, Luchok; student members, Marjorie Lantz and William Weeks.

STUDENT RESIDENCES: Messrs. Gluck, Ennis, and Wood; Misses Arnold and Waddell; student members James Almond, Nancy Cook.

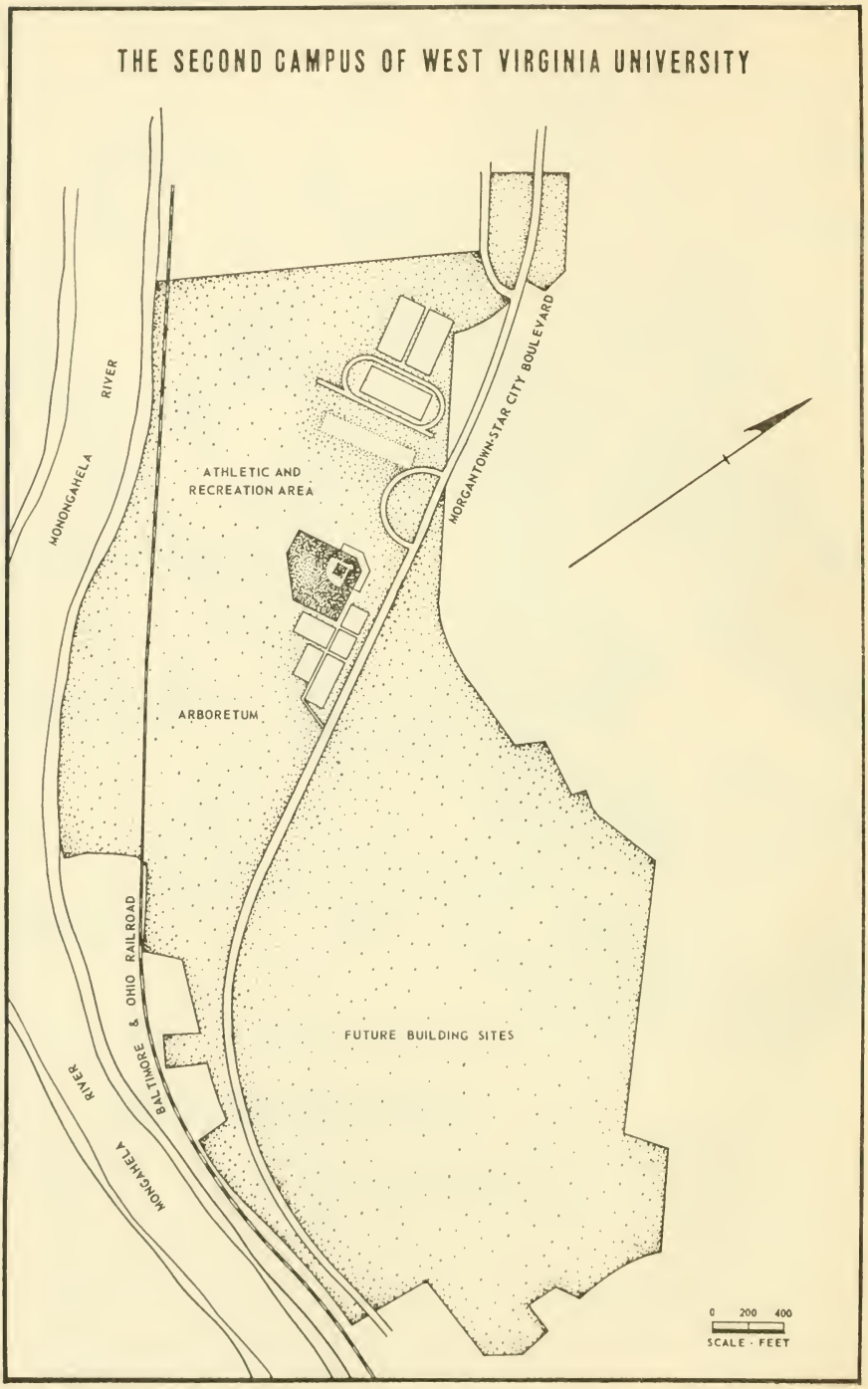
SUBCOMMITTEE ON NEW RESIDENCES: Messrs. Gluck, Abel, and Gribble; Misses Bartley and Fulton.



1. Martin Hall
2. Experiment Station
3. Woodburn Hall
4. Reynolds Hall
5. Science Hall
6. Mechanical Hall
7. Armory
8. Administration Building
9. President's House
10. Heating Plant
11. School of Music Site
12. Horticultural Greenhouse
13. School of Medicine
14. Oglebay Hall
15. Woman's Hall
16. Swimming pool bleachers
17. College of Law
18. Mountaineer Field
19. Music School Ann
20. Chemistry Buildin
21. Field House
22. Elizabeth Moore
23. Library
24. Oglebay Hall Ann
25. Men's Hall
26. Oglebay Hall Ann
27. Alexander Wade



28. U. S. Bureau of Mines Coal Laboratory
29. Mineral Industries Building
30. Health Center
31. Terrace Hall
32. Home Management House
33. W. Va. Library Commission
34. Forestry Building
35. Cafeteria
36. Mountainlair
37. Armstrong Hall
38. Brooks Hall
39. Spruce Street Building
40. Nursery School
41. Glasscock Annex
42. Plant Pathology Greenhouse
43. Physics Building
44. Drill Field
45. Home Management Apartments


THE SECOND CAMPUS OF WEST VIRGINIA UNIVERSITY
MONONGAHELA RIVER
ATHLETIC AND RECREATION AREA
MORGANTOWN-STAR CITY BOULEVARD
ARBORETUM
BALTIMORE & OHIO RAILROAD
MONONGAHELA RIVER
FUTURE BUILDING SITES
0 200 400
SCALE - FEET

Part I
GENERAL INFORMATION

WEST VIRGINIA UNIVERSITY

HISTORY

West Virginia University had its origin in the Congressional Land-Grant (Morrill) Act of July 2, 1862, for the benefit of agriculture and the mechanic arts, and in an act of the State Legislature of October 3, 1863, accepting the conditions of the Congressional act. In case of a doubt regarding the rights of West Virginia Under the act, the Legislature asked that the benefits be extended to her. By an act of April 19, 1864, the request was granted, and land-script for 150,000 acres, most of which were later located in Iowa and Minnesota, was issued to the new state.

On January 9, 1866, the trustees of Monongalia Academy offered to give the State all its property, including the site and other property of nearby Woodburn Female Seminary, representing a total value of about $51,000, on condition that the proposed college "be located permanently at or near Morgantown." On February 7, 1867, the Legislature accepted the offer of Monongalia Academy and established the "Agricultural College of West Virginia" at Morgantown.

Government and control of the "Agricultural College" were vested in a Board of Visitors composed of one member from each of the State's eleven senatorial districts. In response to requests from President Martin, the Legislature, by an act of December 4, 1868, changed the name of the "Agricultural College" to "West Virginia University." At the same time the name of the controlling body was changed from "Board of Visitors" to "Board of Regents." Primarily to serve political purposes, the number of regents was changed from time to time to 1919, when government and control were vested in a state Board of Education of five members including the State superintendent of free schools as the ex officio chairman. This plan proved unsatisfactory, and an act of April 14, 1927, vested control in a Board of Governors of seven members. The number was increased in 1947 to nine.

From 1867 to 1895 and even longer, leaders were divided as to whether West Virginia should have a State-supported university or one "first class" State-supported college. With devotees of liberty dominating the situation "the College Plan" was favored. Component "departments" and "schools," with the professors generally occupying "chairs," functioned autonomously and somewhat provincially. Efforts to comply with the Hatch Act (1887) and the Second Morrill Act (1890) brought larger viewpoints. As a result President Goodknight, who had traveled abroad, in 1895 attempted to convert 'the College" into a university. For that purpose "the eight Academy Schools, five Technical and Professional Schools, and four Special Courses" were organized into four colleges, each with a dean, as follows: Arts and Sciences, Powell B. Reynolds; Engineering and Mechanic Arts, William S. Aldrich; Agriculture, John A. Meyers; and Law, Judge Okey Johnson. The School of Music was established in 1897, a "Summer Quarter" or "Continuous Session" in 1898, and a College of Medicine in 1900.

Both the College of Medicine and the Summer Quarter were discontinued in 1901. Beginning in 1897 the College of Arts and Sciences and the College of Engineering and Mechanic Arts functioned without deans and through more or less autonomous departments and schools to 1911 when the deanships were revived. In 1902 a semblance of the "Summer Quarter" was revived in the "Summer School" which in 1932 became the "Summer Session." The School of Music, having ceased to function as such in 1908, was restored in 1909 with a director in charge. Alternating between a department and a school organization since 1867, Military Science and Tactics became a division in 1911. The arrangement made in 1903 with the College of Physicians and Surgeons, Baltimore, for maintaining a University College of Medicine proved unsatisfactory. It was discontinued in 1910, and the "Medical Sciences" were offered in a department of the College of Arts and Sciences to 1912 when the present School of Medicine was established. In 1914 a Department of Pharmacy was established in the School of Medicine. In the same year the Department of Home Economics, previously a unit in the College of Arts and Sciences, was transferred to the College of Agriculture. The Division of Agricultural Extension was organized in 1912 and the Division of Mining and Industrial Extension in 1914.

The building program inaugurated in 1917 brought additional expansions and curricular offerings. Among the former were the Engineering Experiment Station, 1921, and the School of Mines, 1926, which in 1930 became an independent unit. In 1927 the courses in education were transferred from the College of Arts and Sciences to the newly-created College of Education, and in 1928 the Division of Physical Education was established. Curricular offerings were being improved meanwhile through additional and better qualified personnel. In January, 1930, the Board of Governors established a Graduate School authorized to offer graduate degrees in certain indicated fields.

The Depression (1929-35) slowed expansion somewhat, but progress was resumed in 1936 when the Department of Pharmacy was discontinued as a unit of the School of Medicine and converted into the College of Pharmacy. The next year the Division of Physical Education and the Department of Athletics were combined into the School of Physical Education and Athletics. At the same time (1937), the course in Forestry begun in 1935 as a two-year curriculum in the College of Agriculture, was expanded to a four-year course, and the name of the sponsoring unit was changed to the College of Agriculture, Forestry, and Home Economics. In 1939 the Department of Journalism was discontinued as a unit in the College of Arts and Sciences and became the School of Journalism. The same year a Department of Art was established in the College of Arts and Sciences. The college was further enlarged in 1943 by the inclusion of a Department of Social Work authorized to offer curricula leading to a B.S. Degree and a professional certificate in that field. In 1944 a four-year course leading to the B.S. (Medical Technology) Degree was approved to be given jointly by the College of Arts and Sciences and the School of Medicine. In 1948 the Board of Governors approved an order authorizing the College of Arts and Sciences to offer a general course as an integral part of its curriculum and an optional lower-division program of studies.

The University has had thirteen regular presidents, nine acting presidents, and one chairman of the faculty. Together with their periods of service, they were: Alexander Martin, April 3, 1867-August 12, 1875; Vice-president John Work Scott (Acting), September 6, 1875-March 27, 1877; John Rhey Thompson, March 28, 1877-March 12, 1881; Vice-president Daniel Boardman Purinton (acting), March 13, 1881-1882; William Lyne Wilson, 1882-1883; Robert Carter Berkeley (chairman of the faculty), 1883-1885; Eli Marsh Turner, 1885-July 21, 1893; Vice President Powell Benton Reynolds (acting), July 24, 1893-1895; James L. Goodknight, 1895-August 6, 1897; (from August 6 to August 10, 1897, Vice-president Robert Allen Armstrong was nominally acting president) Jerome Hall Raymond, August 10, 1897-1901; Powell Benton Reynolds (acting), March 21, 1901-July 31, 1901; Daniel Boardman Purinton, August 1, 1901-July 31, 1911; Alexander R. Whitehill (acting), August 1, 1911-

September 30, 1911; Thomas Edward Hodges, October 1, 1911-August 31, 1914; Frank Butler Trotter (acting), July 19, 1914-1916; 1916-1928; John Roscoe Turner, 1928-December 31, 1934; Robert Allen Armstrong (acting), January 1, 1935-September 30, 1935; Chauncey Samuel Boucher, October 1, 1935-August 31, 1938; Charles Elmer Lawall (acting), September 1, 1938-1939; 1939-August 31, 1945; Charles Thompson Neff, Jr., (acting), September 1, 1945-1946; Irvin Stewart, 1946-.

LOCATION

West Virginia University is located in Morgantown, Monongalia County, south of the Mason-Dixon line where it forms the boundary between northern West Virginia and southwestern Pennsylvania. Morgantown is served by the Baltimore and Ohio Railroad, and Capital Airlines. Bus service is provided by the Blue Ridge Bus Lines, Osgood Bus Lines, Reynolds Transportation Company, and West Virginia Transportation Company. The University community is on West Virginia routes 7 and 73 and U. S. routes 19 and 119.

ACCREDITATION

West Virginia University is a member of the North Central Association of Colleges and Secondary Schools. It is accredited by the North Central Association and various professional accrediting agencies.

PHYSICAL PLANT

West Virginia University's campus comprises 74.35 acres near the center of Morgantown and approximately 260 acres of newly acquired land known as the Krepps and Dille farms. In 1951, the Monongalia County Court deeded to the University approximately 90 acres which adjoints 55 acres already owned by the University. This tract of 145 acres is the site for the new medical center, plans for which are now being made by architects. Much of the campus is on high ground overlooking the Monongahela River and the surrounding countryside. The physical plant includes 47 state-owned buildings or structures on campus, five demonstration and experimental farms near Morgantown, four additional experimental farms and two agricultural extension centers located at suitable points throughout the state, a summer surveying camp for Civil and Mining Engineering students, and a summer camp for Forestry students.

Structures on the main campus, with dates of their completion or acquisition, are: Martin Hall, 1870; Woodburn Hall, 1876; Agricultural Experiment Station, 1889, present central part being the Armory from 1873 to 1888; Science Hall, 1893, Mechanical Hall, 1902; Armory, 1902; Administration Building, "Old Library," 1902; President's House, 1905; Heating Plant, 1906; Music Building, 1914; Horticultural Greenhouse, 1915; Medical Building, 1916; Oglebay Hall, 1918; Woman's Hall, 1919; Plant Pathology Greenhouse, 1920; Law Building, 1923; old Cafeteria, since 1950 the "School of Music Annex," 1924; Mountaineer Field, 1925; Hall of Chemistry, 1925; Elizabeth Moore Hall, 1928; Field House, 1929; University Library, 1931; Deahl Hall, to 1948 the "University Rural High School," 1933; Wings to Woman's Hall, 1935; Men's Hall, 1935; Oglebay Annexes, 1933 and 1937; Alexander Wade School, 1939; Reynolds Hall, formerly "Commencement Hall" completed in 1893, 1940; Mineral Industries Building, 1942; University Health Center, 1942; Terrace Hall, 1942; Home Management House, 1942; Library Commission Building, formerly "Health Service," 1942; Forestry Building, 1946; U. S. Bureau of Mines, formerly "Clay Laboratory," 1946; Department of Mines Stoker Laboratory, 1946; new Cafeteria, 1947; Mountainlair, 1948; Armstrong Hall, 1950; Brooks Hall, 1950; and the Physics Building to be completed in 1952. The University acquired the nearby Krepps and Dille farms (260 acres) in 1948.

The farms, with dates of acquisition, are: Dairy Husbandry Farm, 175 acres (1899) and 29.5 acres (1941); Horticulture Farm, 62.5 acres (1916); Animal Husbandry Farm, 321 acres (1916) and 262.5 acres (1941), including a portion for

poultry husbandry; Agronomy Farm, 102 acres (1916) (6 acres donated to College of Engineering for aeroplane hanger in 1943, 15.7 acres transferred to City of Morgantown (1946) for runway extension in exchange for 52.3 acres at County Farm); total acreage of Agronomy Farm, 132.6 (1947); and Poultry Husbandry Farm, 20 acres (1916), all near Morgantown; University Experiment Farm at Kearneysville, Jefferson County, 158 acres (1930); Reymann Memorial Farms at Wardensville, Hardy County, 930 acres (1917) and 57 acres (1943); Reedsville Experiment Farm, Preston County, 457 acres (1944); Ohio Valley branch, Mason County, 150 acres (1945); Tygart Valley Farm (Forestry), Randolph County, 495 acres (1949); Camp Russell Love Morris (Engineering), Preston County, 53½ acres (1950).

The agricultural extension centers, with dates of establishment, are State 4-H Camp at Jackson's Mill, Lewis County (1921), and the Recreation Center at Oglebay Park, Ohio County (1926).

Approximately 50 acres of mostly wooded land along the west side of the Star City Boulevard was set aside in 1948 for growing trees, wild flowers, and other plants, and for their display for students of botany, forestry, horticulture, etc., as well as for the general public. Footpaths have been constructed to provide access to various parts of the Arboretum.

FUNDS

Funds for maintaining the University, the Agricultural Experiment Station, the Engineering Experiment Station, the Mining and Industrial Extension Division, and the Agricultural Extension Division are derived from the following sources: (1) interest on the land-grant endowment of $115,300; (2) Federal Morrill-Nelson and Bankhead-Jones funds; (3) biennial appropriations by the Legislature; (4) fees and tuitions of students; (5) Federal Purnell fund; (6) Federal Hatch fund; (7) Federal Adams funds; (8) Federal Bankhead-Jones research fund; (9) Federal Smith-Lever and Bankhead-Jones funds; (10) Federal Capper-Ketcham fund; (11) Federal Bankhead-Flannagan fund; (12) Federal Research and Marketing fund; (13) tuition of high-school students paid by Monongalia County Board of Education; (14) income derived from sale of farm and dairy products as well as income from athletics, dormitories, dining halls, book store, student activities, etc.; (15) grants by Federal agencies for special research projects; (16) contribution by private benefactors for the support of scholarships, loan funds, and prizes.

GOVERNMENT AND ORGANIZATION

Director of educational, administrative, financial, and business affairs of the University is vested in the Board of Governors. The board is bipartisan and consists of nine members who are appointed by the Governor with staggered terms of service.

The University year is divided into two semesters of approximately eighteen weeks each and a Summer Session of two terms of approximately six weeks each.

Acting in an advisory capacity to the President and assisting him in carrying out established University policies is a *Council of Administration,* composed of the President, the Vice-president, the Registrar, and the deans and directors of all colleges and schools, as well as other administrative officers who may be called to take part in the deliberations of the Council.

The *University Senate,* a legislative body with jurisdiction over all academic matters that concern the entire University and all matters that concern more than one college or division, is composed of the President, the Vice-president, the Registrar, all professors, associate professors, and assistant professors in all colleges, schools, and divisions, and all heads of departments.

The *Graduate Faculty,* composed of all members who teach courses on the graduate level, sets the specific requirements and standards of quality for admission to candidacy for graduate degrees and for the award of graduate degrees.

The *Committee on Student Affairs* acts as an integral part of the whole organization of the University. Its program is bound up with that of the University as a whole, designed to serve the larger academic and social objectives of modern education. For a list of members see page 6.

Colleges and Schools

Organization of the University, together with dates of establishment of the various colleges, etc., follows:

Colleges: College of Arts and Sciences, 1895; College of Law, 1895; College of Engineering and Mechanic Arts, 1895; College of Agriculture, 1895; College of Education, 1927; College of Pharmacy, 1936; College of Commerce, 1952.

Schools: School of Music, 1897-1908, 1909; the Summer Quarter, 1898-1900, Summer School, 1902-1931, and Summer Session, 1932; School of Medicine, 1912; School of Mines, 1926; Graduate School, 1930; School of Physical Education and Athletics, 1937; School of Journalism, 1939.

Division: Division of Military Science and Tactics, 1911, Division of Military and Air Science and Tactics, 1949; Division of Forestry, 1937; Division of Home Economics, 1937.

Experiment Stations and Research Bureaus: Agricultural Experiment Station, 1888; Engineering Experiment Station, 1921; Bureau for Government Research, 1931-1935, 1949; Division of Documents, 1933.

Extension Service: Agricultural Extension, 1912; Mining and Industrial Extension, 1914; Extension in Education, 1915; Liberal Arts Extension, 1916.

The College of Agriculture, Forestry, and Home Economics; the College of Arts and Sciences; the College of Engineering and Mechanic Arts; the College of Pharmacy; the School of Mines; the School of Music; and the School of Physical Education and Athletics are all degree-granting units admitting freshmen. The College of Education, the College of Law, the School of Journalism, and the School of Medicine are professional colleges and schools requiring from two to three years of academic training as a foundation for professional work. All graduate instruction is administered by the Graduate Council and the Graduate Faculty.

A full description of the organization and offerings of the colleges and schools of the University is found in Part II of this *Catalog*.

Summer Session

The fifty-fourth Summer Session of the University will be held from June 4 to August 22, 1952. The session will be made up of two terms of approximately six weeks each.

University High School will be in session the first nine weeks for secondary-school student teaching, practice supervision, and observation. The University Laboratory Elementary School also will be in session during the first six weeks for elementary-school observation and practice supervision.

Requirements for admission and character of the work offered are the same for the Summer Session as for the regular academic year.

Credit may be obtained towards the Bachelor's and Master's Degrees in most of the departments and toward the Doctorate in some departments. Offerings are varied from summer to summer so that students may complete the work for the Master's Degree by attending summer sessions only.

For complete description of courses, see the *Summer Session Bulletin*.

Division of Military and Air Science and Tactics

(1) *Requirements*

a. West Virginia University, a beneficiary of the Act of Congress of 1862, offers in time of peace, a four-year and six-week course of instruction in military and air

science and tactics. Successful completion of the entire course leads to a commission as Second Lieutenant in the Officers' Reserve Corps, United States Army or United States Air Force. Distinguished Military graduates of West Virginia University successfully completing the entire course are offered commissions as Second Lieutenant in the Regular Army or Regular Air Force, under conditions prescribed by law.

b. The course comprises two years of basic (Military Science and Air Science 1, 2; Military Science 3, 4, or Air Science 3,4), two years of advanced training (Military Science 105, 106, 107, and 108; Air Science 105, 106, 107, and 108), and a Summer Camp of six weeks duration during the summer following the junior year. The Summer Camp is conducted at government expense, and eligible students are paid $75 monthly in addition to traveling expenses for the full period of attendance.

c. All male students not specifically exempt by provisions of the appropriate paragraph below are required by chapter eighteen, article eleven, of the official code of West Virginia, and by orders of the Board of Governors of the University, to complete satisfactorily the entire basic course as prerequisite to graduation from the University. This work may be taken as enrolled or nonenrolled members of the Officers Training Corps. To be enrolled in R.O.T.C., or A.F.R.O.T.C., a student must be physically fit for subsequent voluntary service as a commissioned officer of the Army or Air Force. Quota limitations for both basic and advanced military and air science are set by the Department of the Army and Department of the Air Force and cannot be exceeded without special authority.

d. Within deferment quotas established by Public Law 758, 80th Congress, qualified and selected students are deferred by the Professor of Military Science and Tactics and/or Professor of Air Science and Tactics from active duty under the Selective Service Act of 1948 and Selective Service Extension Act of 1950, as amended by the Universal Military Training and Service Act, November, 1951, until completion of their academic as well as their military courses, and receipt of their Baccalaureate Degree. Such deferment is subject to cancellation should the student fail to remain in good standing.

(2) *Curriculum*

a. Basic instruction is given for three hours per week throughout the two semesters of each school year. Two hours' credit allowed for each semester's work.

b. The third and fourth years of instruction in Military Science or Air Science, corresponding to the junior and senior years of the student, comprise the advanced course and are entirely elective on part of the student and highly selective on part of the Professor of Military Science and Tactics and/or Professor of Air Science and Tactics. Application for advanced training should be made not later than the end of the preceding school year to insure favorable consideration. Instruction is given in Infantry, Corps of Engineers, Air Force Administration and Logistics, Air Force Aircraft Maintainance Engineering, Air Force Flight Operations, and Signal Corps, on the basis of five hours per week. Three hours' credit is allowed for each semester completed.

c. Service veterans with twelve months or more of service are eligible to apply for enrollment in the advanced course immediately upon entrance into the University for the fall semester of their junior year. Veterans with less than twelve months' service, but more than six, will be eligible to apply for enrollment in the advanced course only upon completion of M.S. or A.S. 3 and M.S. or A.S. 4.

(3) *Allowances*

a. Commutation of subsistence, in the amount of the current value of the field ration, will be paid monthly to each student taking the advanced course. In addition, uniforms are furnished all military students by the government.

(4) *Military Deposit*

Each student must deposit with the Comptroller, at time of registration the sum of $10 to cover any loss or damage to Government property while in his possession

This deposit will be refunded at the expiration of the School term upon return of the undamaged property.

(5) *Exemptions*

a. The following students will not be required to enroll in the Division of Military and Air Science and Tactics but may elect to do so with the approval of the Professor of Military Science and Tactics and/or the Professor of Air Science and Tactics:

(1) Those who are not citizens of the United States and do not intend applying for citizenship.

(2) Those who, at time of entrance, are more than 23 years of age, and former students over that age who re-enter the University after an absence of three years.

(3) Graduate students.

(4) Students whose studies are entirely within the School of Music.

(5) Students who are taking only the short course, the special interim courses, or extension work.

(6) Students who at time of matriculation have successfully completed not less than 58 hours of work, and all who have completed the two-year basic Army R.O.T.C or A.F.R.O.T.C. course at an institution maintaining a senior unit. Those who have satisfactorily completed one, two, or three semesters in a senior unit be allowed comparable credit.

(7) Students who are unable to perform military duty for physical reasons.

b. Exemptions will be determined by the adviser from student's records and from recommendations of the University physician.

c. Veterans of World War II with one year or more service are exempted from taking basic military training (i.e., Military or Air Science 1, 2, 3, 4). Veterans with more than six months but less than one year's service are exempted from taking the first year of basic (i.e., Military or Air Science 1, 2). But note *paragraph* 2 c in connection with advanced course work.

(6) *Organization*

The Division of Military and Air Science and Tactics and the conduct of military training is the responsibility of the Professor of Military Science and Tactics, and Professor of Air Science and Tactics who, together with their military staffs, are officers and noncommissioned officers of the Army and Air Force, appointed by the Department of the Army and Department of the Air Force for duty at West Virginia University.

(7) *R.O.T.C. Bands*

There is an Army and an Air band. Membership is restricted to R.O.T.C. students. These bands are drawn from the several schools and colleges within the University. Assignment to one of the bands is determined by audition before the Director of the Band.

Library

The Library of the University originated in the collection of books owned by Monongalia Academy when it was transformed into West Virginia University.

The Library's function is to provide books and related materials for teaching, research, and cultural purposes. It endeavors to maintain well-balanced collections in all subject fields included in the curricula of the University. Although primarily intended to supply the needs of the faculty and students of the University, the collections are available to any resident of West Virginia through the Library Extension Service Department, which also borrows books from other libraries for the use of Faculty members and properly accredited graduate students,

and makes loans to other institutions. Facilities are also available for the reproduction of material by microfilm and photostat.

The Library contains over 244,000 volumes and some 50,000 maps, besides several million pieces consisting of manuscripts, books, papers, and county court records relating to West Virginia. Over 1600 periodicals are received currently. The Law Library, housed in the College of Law, has over 49,000 additional volumes.

The Audio-visual Aids Department has about 1,000 educational motion-picture films available to members of the University and to groups throughout the state, 300 film strips, and a collection of musical and speech recordings.

Except during vacations and holidays, the Library is open from 7:55 A.M. to 10:00 P.M., Monday through Friday; from 7:55 A.M. to 5:00 P.M. on Saturday; and from 2:00 P.M. to 5:00 P.M. on Sunday. During periods when the University is not in session, the hours are from 9:00 A.M. to 5:00 P.M., Monday through Friday; 9:00 A.M. to 12:00 noon on Saturday; closed all day Sundays and holidays.

University Extension

The work of this division is under the general supervision of the Director of University Extension. The work given in extension courses corresponds in every particular to that given in the same courses on campus. Students taking extension courses for credit must satisfy fully all requirements for admission to the University and, before registering, must file with the Registrar of the University complete official transcripts of record.

The maximum undergraduate credit that may be counted towards any degree for extension work conducted by the University is 48 semester hours. The maximum undergraduate credit that may be counted towards a degree for extension work taken in other institutions is 30 semester hours. No more than 15 hours of work taken in graduate extension courses may be counted towards any degree, and of these only 8 semester hours may be in one field. Education majors are limited to 12 semester hours that may be counted toward the completion of the Master's Degree.

No University extension courses may be offered for credit without the approval of the Director of University Extension. Library and laboratory facilities for each course must be approved by the Director and, in the case of courses for graduate credit, by the Graduate School. Reference books for the use of extension students may be borrowed from the University Library upon the order of the Director of University Extension, subject to the approval of the Library Committee. Postal charges must be paid by the individual or groups for whom the books are borrowed.

A fee of $8 per semester hour is charged for each extension course offered for undergraduate credit. A fee of $10 per semester hour is charged for each extension course offered for graduate credit.

For further information write to the Director of University Extension.

University Book Store

The University Book Store, located on the ground floor of the Law Building, is owned and operated by the state for the convenience of students and staff members. The Book Store stocks new and used textbooks, general trade books, school and office supplies, medical and engineering instruments, and physical education equipment. All merchandise, except for price-protected items, is sold to students and staff members at a discount price.

Cafeteria

The Cafeteria is open for three meals daily except Saturday and Sunday. Dinner is not served on Saturday except on special occasions such as Homecoming Weekend and Greater West Virginia University Weekend. Only the noon meal is served on Sunday.

The Cafeteria observes all University holidays.

ASSOCIATED INSTITUTIONS

West Virginia Academy of Science

Organized in 1924 to bring about closer affiliation among scientists of the state and to encourage the pursuit of scientific work throughout the commonwealth, the West Virginia Academy of Science is a body of nearly five hundred men and women who are interested in the service of science in development of the state. Members are widely distributed throughout West Virginia and adjoining states and are representative of colleges, high schools, and industries. A Collegiate Academy and a Junior Academy are sponsored by the Senior Academy. Annual meetings, held at the various institutions of higher learning, are divided into sections on biology, chemistry, geology and mining, mathematics and physics, and social sciences. The *Proceedings* of the annual meetings are published under the auspices of the University and the Academy.

West Virginia Geological and Economic Survey

The West Virginia Geological and Economic Survey, situated at West Virginia University, is governed by its own commission and receives separate appropriations.

The Geological Survey was founded by an Act of the Legislature in 1897 and has functioned consistently since that date. It is recognized as one of the leading state surveys.

One of the major purposes of the Survey is to have members of its staff, specialists in their field, investigate all natural resources, and especially mineral resources, of the state and make results of the investigations available to the public in the form of written reports and maps.

Accomplishments of the Survey include complete topographic mapping of the state on 1-mile-to-the-inch quadrangles; complete geologic mapping of the state by counties, and a state geologic map; complete mapping of the soils of the state by counties; and the state relief map (scale 1 inch equals 4 miles).

Numerous special reports also have been made on coal, oil, gas, clays, limestones and cement, iron ores and building stone, mineral springs, manganese, deep-well records, salt brines, rock salt, caverns, and forest and wood industries.

The professional staff of the Survey is composed of eight geologists, a petroleum engineer, two chemists, and a spectroscopist. There is close cooperation between the survey and the Department of Geology of the University. Two geologists from the U.S. Geological Survey are assigned here for cooperative studies on ground waters. The large collection of well cuttings on file brings many petroleum geologists here to study them.

Government of the Survey is vested in the Geological Survey Commission, composed of the Governor of West Virginia, the State Treasurer, the Commissioner of Agriculture, the President of West Virginia University, and the Director of the Agricultural Experiment Station.

West Virginia Biological Survey

The West Virginia Biological Survey is an organization of voluntary workers whose purpose is the collection of information of every kind about the plants and animals of the state.

The executive committee consists of a biologist from each of the colleges of the state with a chairman, secretary, and curator. There are no dues, and membership is open to all persons interested in the work of the Survey.

The repository for plant and animal collections is in Brooks Hall, West Virginia University, Morgantown, and Marshall College, Huntington. Under direction of the Survey a series of publications dealing with biology of the state is being published.

The Survey, in cooperation with Carnegie Museum, Pittsburgh, Pennsylvania, during several summers has maintained one or more field collectors whose work has taken them into all parts of West Virginia. An increase in knowledge of biological conditions in the state has resulted from this work.

State Road Commission

The Materials Laboratory of the State Road Commission is housed in Mechanical Hall of the University. Its work includes testing of all materials used by the Commission and also research on problems of road construction and maintenance in West Virginia.

UNIVERSITY PUBLICATIONS

The following publications are issued regularly at the University:

1. The *West Virginia University Bulletin,* issued monthly during the year. The series includes the *Catalog* of the University and the *Announcements* of the various colleges and schools as well as other occasional publications.
2. The bulletins and circulars of the Agricultural Experiment Station.
3. The circulars of the Agricultural Extension Service, including *Farm Women's Club* leaflets, *4-H Suggestions, Treasures of the Trail, West Virginia Farm News* (in cooperation with the West Virginia Farm Bureau), and special pamphlets.
4. Agricultural News Service bulletins published weekly by the College of Agriculture.
5. The bulletins of the Engineering Experiment Station and of the School of Mines.
6. The *West Virginia Law Review,* official publication of the West Virginia Bar Association, edited by the faculty of the College of Law.
7. Miscellaneous publications under the title of *Philological Papers* or *Biological Studies.*
8. *The Student Directory,* annual directory of the student body, published by the University Book Store.
9. The annual *Proceedings* of the West Virginia Academy of Science.
10. The West Virginia *Fourth Estatesman,* a quarterly publication edited by the faculty of the School of Journalism.

UNIVERSITY LIFE

STUDENT WELFARE

Director of Student Affairs

The activities of student welfare are under the administration of the Director of Student Affairs. The Director's office is on the second floor of the Administration Building.

Dean of Women

All interests of women students in the University are in charge of a special executive officer of the University, the Dean of Women. The Dean's office is on the main floor of Elizabeth Moore Hall.

Eligibility for Activities

To be eligible to represent the University in public appearances, a student must be enrolled in the University and must meet the eligibility requirements of the department or school in which the activity originates. The records of those students whose status is questionable should be checked at the Registrar's Office before participation. This checking should be done by the department or school in question.

To hold an elective or appointive office in any duly recommended student organization, a student must be enrolled in the University for at least 12 semester hours and, if in other than his or her first semester in residence, must have maintained a minimum average of "C" the last previous semester in the University.

The rules and the policies of the Southern Conference govern participation in intercollegiate athletics.

ASSOCIATED WOMEN STUDENTS

All women students of the University are members of Associated Women Students. The purpose of this association is to regulate all matters pertaining to the student life of its members; to further in every way a spirit of friendliness and unity among the women of the University; to increase their sense of responsibility; and to be a medium for maintaining high scholastic and social standards.

Responsibility for directing the work of the Association rests with the Executive Council, which is composed of the following members: a president, two vice-presidents, a secretary, a treasurer, and a representative from each class. These officers are elected annually by the Association. To be eligible for membership on the Executive Council, a woman must have no less than a "C" average in all her work.

In 1921 the Association was admitted to active membership in the intercollegiate Association of Student Government for Women Students.

MOUNTAINLAIR

Mountainlair, the student center, was opened on May 14, 1948, to provide members of the University with a general recreational center.

Mountainlair is a remodeled Navy recreation building, situated at the northeast end of Mountaineer Field. It contains a large snack bar, four bowling alleys, a lounge with newspapers and magazines, an activities or meeting room, office space, and a huge ballroom used for such activities as table tennis, badminton, shuffleboard, dances, and special student functions. A smaller upstairs ballroom is used for small dances, movies, style shows, etc.

The Mountainlair Swimming Pool was opened in August, 1951. The pool is 42 by 75 feet, the regulation intercollegiate size. Adequate recreational swimming hours are provided for all persons having a Mountainlair identification card.

The Mountainlair staff devotes its full time to making a pleasing atmosphere for students' recreation and to setting up an adequate program designed to fit many individual needs of students on campus. The activities at Mountainlair are planned by the students with the coordination of a Social Director.

The building is open from 7:30 A.M. to 10:30 P.M. Monday through Thursday, 7:30 A.M. to 11:30 P.M. Friday and Saturday, and 2:00 P.M. to 10:30 P.M. Sunday.

LIVING ACCOMMODATIONS

The University maintains three dormitories, one for men and two for women. For information as to accommodations and rates, address the office of the Business Director of Residence Halls. Cost of room and board will be determined later.

The following rules are in effect:

No student will be permitted to live in other quarters until after Men's Hall and dormitories for women are fully occupied.

In assignment of rooms in these buildings all freshmen shall be required to take rooms therein before members of any other classes shall be assigned rooms therein, no freshman being allowed to live outside the dormitories if there is room in them.* In enforcing the above rules, the following exceptions shall be made:

(1) When the parents or legal guardians of students reside in Morgantown or within commuting distance of the University, these rules shall not apply.

*In dormitories for women, rooms are assigned to freshmen, sophomores, juniors, and seniors.

(2) When the home of the student is within such distance that it is entirely practicable for him to live in his home and reach the University by car or otherwise for all his classes, these rules shall not apply.

A student who does not claim exemption for the fall semester to live with relatives, cannot claim exemption for the second semester unless the parents in the meantime have moved to Morgantown.

(3) When students above the rank of freshman reside in approved sorority or fraternity houses under the supervision of the Director of Student Affairs and the Dean of Women, these rules shall not apply.

(4) When conditions of employment (such as firemen in various buildings and homes, employment on dairy and experimental farms, etc.) require residence on the premises, these rules shall not apply. Students so employed should not request dormitory reservations.

When space is needed for underclass women, no senior sorority woman will be permitted to live in Woman's Hall if there is room for her in her sorority house.

Because of the shortage of dormitory space, rooms are assigned only to students whose homes are in West Virginia. Assignments are for the entire academic year. Students cannot be released at the end of the first semester to live elsewhere. Men's Hall is reserved for freshmen.

More detailed information may be found in the Residence Halls Bulletin, a copy of which will be furnished by the office of the Business Director of Residence Halls.

Board and lodging for women graduate students is available in private dwellings in Morgantown. Board and lodging for men also is available in private dwellings. For information concerning rooms in homes on the approved list, men should address the Office of Off-Campus Housing, West Virginia University, Morgantown. Women should communicate with the office of the Dean of Women, West Virginia University, Morgantown.

PHYSICAL EDUCATION AND ATHLETICS

Service Programs for Men and Women

Two hours of physical education for men, P.E. 1 and 2, to be taken during the first year in residence; and four hours of physical education for women selected from P.E. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, or 57 to be taken during the first and second year in residence, are required for graduation of students presenting fewer than 58 hours unless previous credit has been allowed.

Each student who is required to register for physical education is given a complete medical and physical examination at the beginning of the University school year to determine his fitness for active participation in University activities of any description. See Part II for more extended information on the course offerings of these departments.

Intramurals

A broad intramural sports program for men and women is provided by the School of Physical Education and Athletics. It is the aim to encourage all students of the University to participate in organized athletic sports and wholesome active recreation. Competition is promoted between student groups and individuals. Such natural groupings as classes, fraternities, sororities, dormitories, and other nonfraternity units form the basis for activities in competitive sports.

The following activities are conducted for men in the Intramural program: speedball, touch football, tennis, volleyball, handball, basketball, indoor track, relays, bowling, basketball free throwing, softball, horseshoes, and outdoor track. Other activities may be organized when there is sufficient interest on the part of students and when facilities permit. Leagues are organized to accommodate fraternities, dormitories and nonfraternity groups.

The following activities are conducted for women: horseshoes, volleyball, badminton, swimming, basketball foul throwing, bowling, softball, archery, and tennis. Interclass tournaments for Physical Education majors are held in the following activities: volleyball, badminton, basketball, swimming, tennis, and softball. As the demand for more activities develops, the facilities will be increased and the program broadened.

Intercollegiate Athletics

Activities of the Department of Intercollegiate Athletics are administered by the Director of Intercollegiate Athletics and by the Athletic Council. The council is composed of eight members: four faculty, two alumni, one student, and one member of the Board of Governors *(ex officio)*. The Dean of the School of Physical Education and Athletics serves as a member, and the Director of Athletics is the executive officer. Instruction and training are given each year in the seasonal sports such as football and cross-country; basketball, and wrestling; baseball, track, tennis, and golf. Matters concerning athletic eligibility regulations are decided by the Athletic Council, and scholastic eligibility regulations are established by the faculty of the University.

THE UNIVERSITY HEALTH SERVICE

The University Health Service, which is a part of the organization of the School of Medicine, is maintained to provide medical care to students of the University and to supervise general health conditions on campus. The staff includes four full-time physicians, six nurses, laboratory technicians, and clerical personnel. The University Pharmacy, housed in the Health Center, is managed by the College of Pharmacy. The Departments of Pathology and Bacteriology cooperate in the laboratory examination of diagnostic materials.

The Health Service occupies a well-designed University Health Center constructed in 1942. This three-story building is centrally located on campus, fronting on College Avenue adjacent to Reynolds Hall. It is built of brick and concrete and is fireproof throughout. On the first floor are the treatment rooms, offices, and pharmacy. The second floor is occupied by laboratory and X-ray departments, together with the Department of Pathology. The third floor contains a well-equipped Infirmary.

The Health Service is in operation from 8:00 A.M. to 5:00 P.M. daily except Saturday and Sundays. Saturday hours are 8:00 A.M. to noon. Physicians are in attendance from 8:30 A.M. to 12:00 M. and 1:00 P.M. to 5:00 P.M. A nurse is present at all times in the Infirmary, and a University physician can always be reached by calling the Health Service, Extension 323 on the University exchange.

Each regularly enrolled University student pays a fee which provides for medical consultation and advice from University physicians. Moderate additional charges are made for room calls, X-rays, laboratory tests, minor operations, treatment of fractures, and drugs furnished by the Health Service or Pharmacy.

On his first enrollment in the University a student receives a complete physical examination which includes a blood test and urinalysis. The Health Service also gives special physical examinations to students in competitive athletics, to University food handlers, to employees of the Buildings and Grounds department, and to other groups as occasion may arise.

University Infirmary

Students who need bed care for medical illness are hospitalized in the University Infirmary. The Infirmary is open only to full-time students of the University. It is the policy of the Health Service to have all students requiring such care in the Infirmary, and they will not ordinarily receive continued care elsewhere. Students hospitalized in the Infirmary are under the care of Health

Service physicians, although other qualified physicians may be seen in consultation when necessary. Patients will be admitted and discharged on the order of Health Service physicians.

Upon admission to the Infirmary the student receives two days of hospitalization without charge except for laboratory, X-ray, special medications, and private duty nurse fees. No additional charge is made for general nursing care, dressings, routine medications as commonly supplied by the Health Service, and food as ordered by the physician in charge. Laboratory examinations, X-rays, penicillin, and similar medication will be charged at the usual Health Service rate to students. Special nurses, when necessary, are at the expense of the student.

A student may receive not more than thirty days hospitalization for any one illness. Patients are to leave when discharged by the University physician. When it becomes evident that a student's illness will be so prolonged as to prevent his completing work of the current semester, he may be discharged from the Infirmary when the attending physician or the Director of the Health Service considers that he may be moved without undue danger to his health. The services as indicated above are subject to the availability of space in the Infirmary. Twenty-two beds are at present ready for use.

Speech and Hearing Rehabilitation Clinic

The Speech and Hearing Rehabilitation Clinic, which is operated under the direction of the Department of Speech, offers its services to all students of the University in need of treatment for various types of speech disorders such as stuttering, cleft palate, aphasia, spasticity, deafness, hard-of-hearing, etc. All work is in charge of a professionally trained and fully qualified speech clinician and audiologist who has been certified for this type of work by the American Speech and Hearing Association. The clinic is located in the specially designed set of rooms which permits private as well as class instruction, the use of soundproof cubicles, modern equipment for diagnosis and therapy, and opportunities for supervised and directed help in overcoming speech handicaps.

UNIVERSITY ACTIVITIES

Social

Student social life in the University is a carefully planned and supervised part of a student's life on campus. It is guided in such a manner as to offer a wholesome type of pleasure without curbing the institution's main purpose—education of the student body.

All social life is under general supervision of the Committee on Social Affairs. The committee has supervision of every social function given by the University or by an organization within it, including fraternities, sororities, and other student societies.

The social program is highlighted during the year by Homecoming Weekend, Mountaineer Weekend, and Graduation Week. The Torchlight Parade held during Homecoming Weekend is fast becoming an annual tradition. Homecoming Dance, of course, is the climax of the celebration. Mountaineer shenanigans on a special fall weekend, set aside by students, is the most newly established annual affair. Mountaineer garb, in its truest fashion, prevails at all activities for the two-day program, including classes on Saturday mornings. Mountaineer music, hayseed hoedowns, simulated Hatfield-McCoy fueds, and other attractions provide everyone with a gala time.

The outstanding social event of Graduation Week is the Senior Ball which brings the undergraduate's social life to a climactic end.

Other major dances include the Military Ball, Engineers' Ball, and Gold-diggers' Ball.

Aside from these major social attractions, there are many others scheduled for weekends throughout the year. A number of these activities are sponsored by individual organizations; some have a limited attendance and others are all-campus affairs.

SOCIAL CENTER FOR WOMEN

On the upper campus, opposite Reynolds Hall, is Elizabeth Moore Hall, named after the preceptress at the former Woodburn Female Seminary. The building provides for social, recreational, and physical education activities for women students. The building is so arranged that facilities for social gatherings constitute a separate unit.

Cultural

The University through the Committee on Convocations and Public Exercises provides appropriate and desirable programs for students. These convocations form the basis of the cultural program, but there are others sponsored by various divisions of the University and community.

Convocations consist of addresses by distinguished speakers, and musical and other entertainment features of special merit.

During the year students have an opportunity to attend their own legitimate theatre in which plays are presented by the Speech Department. University Radio Theatre is also an activity of the Speech Department.

The University-Community Symphony Concert, individual recitals, and glee club concerts are sponsored by the School of Music.

The Community Concert Series is another fine opportunity afforded to students.

A broad student fellowship program is available at the many churches in the community and a special week is set aside annually as Life Week to emphasize the religious phase of student life.

Greater West Virginia University Weekend makes a number of cultural activities available to students and their visiting parents. A modern dance recital, music recitals, religious services, and educational scientific exhibits are of the highest value.

FORENSIC ACTIVITIES

The University maintains a complete forensic program under sponsorship and direction of the Department of Speech. Intramural and intercollegiate activities in debate, oratory, and extemporaneous speaking are included. Speech tournaments, trips, and tours as well as campus contests make up the program. Participation may lead to membership in Delta Sigma Rho, national honorary forensic fraternity, and is open to any regularly enrolled student in the University.

UNIVERSITY PLAYERS

The University Players, sponsored by the Department of Speech, presents a full program of major productions, open to the public, each year. In recent years such plays as *The Little Foxes, Angel Street, Blythe Spirit, The Man Who Came to Dinner, Hedda Gabler, Craig's Wife,* and *High Tor* have been given. Tryouts for casts of all plays are open to any regularly enrolled student in the University. Membership in Alpha Psi Omega, national honorary dramatic fraternity, may be earned by superior work in such productions.

UNIVERSITY BROADCASTING

Broadcasting of radio programs to the people of West Virginia was established at the University in May 1938, when Station WMMN, Fairmont, began a series of

noncommercial programs originating on the campus. All are of an educational, informative, or entertaining nature. In addition to these programs, special events have been carried from time to time over numerous West Virginia stations; athletic events have been broadcast regularly by a group of West Virginia stations as well as by in other states. Members of the announcing classes receive actual station experience at the local station, WAJR, Morgantown.

The University is prepared to open its doors to all West Virginia stations that wish to broadcast special campus events.

University Radio Theatre. Every week a half-hour radio show is broadcast over Station WMMN, Fairmont. Produced by University Radio Students, the series is directed by the radio faculty of the Department of Speech. The cast and technicial crew are composed primarily of students of radio in the Department of Speech but auditions are arranged at the beginning of each week for other students on campus who might be interested in getting radio experience. The radio dramas and documentary scripts which are used on these broadcasts are written by students of radio or are secured from famous network authors.

RELIGIOUS FOUNDATIONS AND ASSOCIATIONS

Foundations

As at most state university centers, various state and national church boards have established foundations at West Virginia University for the religious education and nurture of students. The churches of Morgantown extend a warm welcome to students of all faiths. The physical plant and equipment of each church is available for social, educational, and recreational activities of students.

The Baptist Student Fellowship headquarters are at the Baptist Student Center, 640 N. High Street, under the administration of the Rev. Parker Burroughs, student pastor. The program includes participation in Bible School, worship services of the church, B.S.F., and service in mission churches in nearby districts. Student activities are democratically organized and depend in large measure on student initiative and leadership.

Newman Hall, 1481 University Avenue, is the social and religious center established by the West Virginia Diocese of the Roman Catholic Church for students of that and other faiths. Rev. Eugene Schmitt is the resident chaplain. Newman Hall is a beautiful building of English collegiate architecture immediately adjacent to the campus. It is equipped with dormitory facilities for twenty students and also includes a chapel, dining room, lounge, game room, and library.

The Disciple Student Foundation provides a program for Christian Church students attending West Virginia University. The Foundation is sponsored by the Department of Religious Education of the United Christian Missionary Society (Indianapolis, Ind.), the West Virginia Christian Missionary Society (Huntington, W. Va.), and the First Christian Church of Morgantown. These three agencies function through a Student Work Advisory Committee. The First Christian Church is the center for Foundation activities and is located a 447 Spruce Street. The Rev. Benton Roy Hanan is director of the Foundation and pastor of the Church.

Trinity Church, Spruce Street, is the center for student work sponsored by the Diocese of West Virginia of the Protestant Episcopal Church and the Church Society for College Work. This work is under direction of the rector, Rev. Harold M. Wilson. The program includes corporate student worship services and meetings of the Canterbury Club, which is one of the National Association of Canterbury Clubs, for discussion and fellowship.

The Hillel Foundation at West Virginia University, 1420 University Avenue, represents the combined efforts of the West Virginia B'nai B'rith Lodges and of the National B'nai B'rith Hillel Foundation to bring the University's students together in religious, cultural, and social activities. Prominent lecturers and speakers are featured at regular intervals by the Foundation for the members of the group and for the general student body.

St. Paul's Lutheran Church is the center of Lutheran student activities sponsored by the Student Service Commission of the National Lutheran Council, the Synod of West Virginia, and St. Paul's Lutheran Church. This work is under the direction of the Rev. W. Roy Hashinger, local pastor. The program includes regular services of the church and activities of the Lutheran Student Association.

Wesley Foundation is housed in the newly completed Methodist Student Center at 503 High Street and provides a worship and activities center for Methodist students in the University. Complete facilities for recreation, feeding, drama, and various religious meetings are provided as an integral unit of Wesley Methodist Church. The students are organized into a working cabinet, and carry forward a religious education program consisting of worship, study, fellowship, community service, mining camp missions, and other extension activities. The program is under the direction of Dr. Thomas LeRoy Hooper, pastor of Wesley Church, and Joseph Johnson, Director of the Youth Center. The Foundation sponsors Kappa Phi, Methodist women's sorority, and Sigma Theta Epsilon, Methodist men's fraternity.

The Westminister Foundation of West Virginia represents the cooperative efforts of the Boards of Christian Education and National Missions of the Presbyterian Church, U.S.A., and of the Synod of West Virginia of the Presbyterian Church, U.S., to make the Christian religion a vital factor in the experiences of students and in the relationships which these students sustain while in the University; and also, through guided Christian activities in the mine-camp communities surrounding Morgantown, to train among educated men and women future Christian statesmen. The Rev. Wm. C. Swartz, 304 Willey Street, is the student pastor and director.

Other churches, while not having special buildings or workers for University students make definite contributions in ministering to the religious and social needs of University students who belong to their particular faiths. It should be stated in this connection that college students are welcome in all of our churches regardless of what their church affiliations may be, or indeed whether they have any.

ASSOCIATIONS

The Young Men's Christian Association of West Virginia University is a nonsectarian fellowship of students and faculty united in the desire to encourage personal and social development in the light of religious principles. The Young Women's Christian Association is a nonsecterian fellowship of women of the University organized for the purpose of promoting and directing widely varied activities through a religious motive. Both Associations are affiliated with their national and international bodies and with the World Student Christian Federation.

Student officers, student cabinets, boards composed of students, faculty, and townspeople, and an executive secretary direct the activities. The various committees, interest groups, and commissions provide not only their immediate ends, but also opportunity for fellowship and leadership training. The Y.M.C.A. office is located on the third floor of the Adminstration Building and the Y.W.C.A. office is located on the second floor of Elizabeth Moore Hall. Miss Betty Boyd is executive director of the Y.W.C.A.

MUSICAL ORGANIZATIONS

The University-Community Symphony Orchestra

The University-Community Symphony Orchestra is open to all students, faculty members, and citizens of the community who are proficient in the playing of an orchestral instrument. The repertoire is that of the standard symphony orchestra, with special emphasis on contemporary American music.

The functions of the orchestra are to provide the University and community an opportunity to hear symphonic music, to enable the student to gain orchestral experience, and to serve as a laboratory for student composers, orchestrators, and

conductors. Four or five concerts are given each year on campus, and additional programs are presented in other cities in West Virginia and Pennsylvania.

Rehearsals are held each Wednesday in the School of Music Annex. One hour of credit per semester may be earned.

Women's Glee Club

The Women's Glee Club is open to all University women who can sing a part acceptably. The organization affords an opportunity for women students to become acquainted with the best in choral literature, both classic and contemporary. It performs for various University functions in addition to presenting concerts both on and off campus.

Rehearsals are held each Thursday at 7:00 P.M. in Reynolds Hall. One hour of credit per semester may be earned.

Men's Glee Club

The Men's Glee Club is open to all University men who can satisfactorily sing a part. Concerts are given several times through the school year on campus as well as out of town.

Rehearsals are held each Thursday at 7:00 P.M. in room 21 Mineral Industries Building. One hour of credit per semester may be earned.

University-Community Mixed Chorus

The University-Community Mixed Chorus is open to all University students who can satisfactorily sing a part. Concerts are given several times through the school year. This organization offers opportunity for the study of much choral literature.

Rehearsals are held Monday at 7:00 P.M. in the School of Music Annex. One hour credit per semester may be earned.

The University Bands

The University Bands are composed of students drawn from all classes of the various colleges and schools of the University. The Mountaineer Marching Band provides music and pageantry for athletic events, parades, and the like. The Concert Band gives several concerts each year in Morgantown and in nearby cities.

STUDENT PUBLICATIONS

The *Daily Athenaeum,* University student newspaper, is published daily Tuesday through Saturday, by students of the School of Journalism. Heads of the editorial and business staffs are appointed by the University Committee on Student Publications from a list of eligible students certified by the Director of the School of Journalism.

The *Monticola,* student yearbook of the University, is usually published by upperclassmen. The editorial and managerial staff is appointed by the University Committee on Student Publications.

Moonshine, student humor magazine, is published by a staff appointed by the University Committee on Student Publications.

Mountain Guide, formerly called the *Freshman Handbook,* is published annually under the direction of the University Office of Publications and is distributed to each member of the entering class and to transfer students.

All student publications of general campus circulation are under the supervision of the University Committee on Student Publications.

GIFTS, SCHOLARSHIPS, AND LOAN FUNDS

Several individual, as well as national patriotic, educational, fraternal, and religious organizations, have established scholarships, loan funds, prizes, trophies, and medals for students in the University.

Gifts

Carnegie Corporation Music Collection. Thanks to the generosity of the Trustees of the Carnegie Corporation of New York, West Virginia University in 1936 received as a gift, designed to stimulate and develop an interest in music culturally on the part of the entire student body, a Music Collection that cost the corporation $2,500. The set includes:

An electric phonograph of special design for use in small rooms and auditoriums; approximately nine hundred records, chosen as an anthology of recorded music, ancient and modern, from oriental and occidental countries; an oak cabinet with approximately seventy-five buckram albums in which to keep the records; a duplicate set of printed three-inch by five-inch indexes of all records in the set, classified by composers, titles, mediums, forms, etc.; bound copies of full scores, when published in miniature, also bound vocal scores of operas and oratorios, which are included for all completely recorded works in the set; lastly, a selection of about one hundred books on musical subjects, historical and biographical, and works of reference.

This Music Collection is attractively housed in the Library and its use is administered under regulations designed to make it of greatest possible value to the students of the University.

Grants

Frederick Gardner Cottrell Grant. The Research Corporation granted $1900 to West Virginia University Department of Chemistry for the support of a research project entitled, "The Chemistry of Organoboronic Acids and Their Derivatives."

The Sears-Roebuck Foundation has granted to the Agricultural Experiment Station, beginning in 1944 to the present, $26,300 for subsidizing a hillculture project, which is designed to increase income of the farm family.

Scholarships

American Bankers Association Foundation for Education in Economics Loan Scholarships. The American Bankers Association Foundation for Education in Economics has assigned to West Virginia University three scholarships of $250 each. These scholarships will be "awarded only to deserving students of integrity, intelligence, character, competency, and aptitude, whose means of support are dependent wholly or in part on their own labor, to enable them to continue the study of courses in banking and economics in classes of junior grade or above. Scholarship of the highest rank will not be a definite requirement for a loan scholarship award; however, the Foundation desires to encourage students who will become leaders in professional or business life and does not wish loan scholarships granted to mediocre or inferior students." The holders of these scholarships are eligible for one reappointment. The loan is without interest until the first day of the second January after the recipient leaves the University. Beginning on that date interest accrues at the rate of 5 per cent per year, and repayment of both principal and interest in sums of no less than $10 monthly must likewise then begin.

The Board of Governors Scholarships. On April 5, 1945, the Board of Governors of West Virginia University authorized the establishment of twenty-five scholarships to be awarded annually to high-school graduates. The first awards were made for the academic year 1946-47. The scholarships entitle recipients to remission of all fees, except those payable to state special funds and those chargeable to Special Services. Awards are made on the basis of (1) scholastic attainment, (2) citizenship, loyalty, and personality, (3) character and leadership, and (4) extra-curricular abilities. Applications for these scholarships are made through the Board of Governors' Scholarship Committee and scholarships are awarded on recommendation of the committee and on approval by the Board of Governors.

Scholarships remain in effect for four academic years unless revoked for disciplinary reasons, for failure to maintain scholastic standard, or because of withdrawal from the University.

Scholarships in Music. In July, 1950, The Board of Governors established five annual scholarships in music. Each scholarship includes four academic years and entitles the recipient to the remission of all fees (including contingent and tuition fees, special fee of $35.00, and special instrument practice fee), except those payable to State Special Funds and those chargeable to Special Services. Those eligible to take part in the contests will be West Virginia high school seniors who give promise of becoming eligible for regular enrollment in the School of Music of West Virginia University as candidates for a degree in applied music. Preliminary and final contests will be held in Morgantown on the campus of West Virginia University and the dates will be announced.

Victor E. Albright Scholarship. This scholarship is worth $200 per year and is to be awarded "to a boy or girl of good character, of fair health and of the White race, who was born and reared in Preston county and who graduated from a high school of Preston county in the year in which the scholarship is given."

West Virginia Interscholastic Forensics Scholarships. In February, 1950, there were established five West Virginia University scholarships, two in debate, and one each in oratory, extempore, and interpretative reading, to be awarded annually to graduates of West Virginia high schools. These scholarships entitle the recipients to the remission of all fees, except those payable to State Special Funds and those chargeable to Special Services. Awards will be made by the University Speech Department at the finals of the West Virginia Interscholastic Forensics Program on a date to be announced. Each scholarship shall remain in effect for four academic years unless revoked for disciplinary reasons, for failure to maintain scholastic standard, or withdrawal from the University.

Woman's Music Club of Morgantown Scholarship. This scholarship was established in 1950 to be awarded to a talented freshman in the University School of Music. Recommendations for the recipient of this scholarship shall be the responsibility of the Director and faculty of the School of Music.

The P. A. and Ethel N. George Pharmacy Scholarship. Established in September, 1950, by Mr. Charles A. George of Ronceverte, West Virginia, this scholarship of $50.00 per semester is available to a student in the College of Pharmacy from either Greenbrier or Monroe counties who needs financial assistance to complete his pharmaceutical education at West Virginia University. Applications should be made to the Dean of the College of Pharmacy and the recipient must maintain at least a "C" average to continue on the scholarship.

Harrison County Alumni Chapter Scholarship. This scholarship, established in 1950, provides tuition fees to an outstanding Harrison County high school graduate. Selection is made by the Harrison County Alumni Chapter.

Carleton C. Pierce Scholarships. General Carleton C. Pierce established in June, 1950, three scholarships to be awarded as follows: $100 to "top man" and $50 to "second man" on the West Virginia University football team and $50 to the "top man" on the West Virginia Freshman football team, all of which shall be for the best academic work, as well as game participation. Recommendations for the recipients of these scholarships is the responsibility of the West Virginia University Varsity and Freshman coaching staffs.

The Elizabeth Davis Richards Scholarship in English and Poetry. In memory of Elizabeth Davis Richards, well-known West Virginia authoress and patron of the English Club, an annual scholarship in the amount of $50 was established by Del Roy Richards of Morgantown in December, 1936, to be awarded to some worthy upper-division or graduate student in the Department of English.

The John Barton Payne Scholarship. The Hon. John Barton Payne, native of Taylor county and late president of the American Red Cross, bequeathed to the University the sum of $12,000, the income from which is to be used to aid two young men—one a native of Taylor county, the other a native of Preston county—to attend the University. Financial need and scholastic merit are prime considerations in making the award.

The Sears Roebuck Agricultural Foundation Scholarships. A grant to the College of Agriculture of $2200 from the Sears Roebuck Agricultural Foundation of Chicago makes possible the awarding of scholarships each year to upwards of ten needy, deserving boys enrolling as freshmen and one sophomore in Agriculture. Individual scholarships amount to $200 per year. The selection of the recipients of each of the scholarships is made by the Dean and faculty of the College of Agriculture.

The Southern States Cooperative Scholarship. Each year the most outstanding high-school student in vocational agriculture who is also a member of the West Virginia association, Future Farmers of America, and who matriculates in the College of Agriculture will receive a scholarship award of $100 from Southern States Cooperative, Inc.

The Junior League Scholarship. This scholarship, providing $150 a year for a graduate Social Work student, was established in 1942: It is jointly supported by the five leagues of the state. Applicants must be residents of West Virginia, and all applications must be addressed to the head of the Department of Social Work.

The Board of Governors Latin-American Scholarships. These two scholarships are available to Latin-American students for full-time graduate work in the Department of Social Work. They are equivalent to annual nonresident tuition fees; and recipients are selected by the head of the Department.

West Virginia Federation of Women's Clubs Pan-American Scholarships. The winner of this scholarship is remitted tuition fees by the Board of Governors and receives room, board, books, and other incidentals from the federation.

The West Virginia Federation of Women's Clubs Scholarship. This scholarship provides $150 a year and is awarded to a full-time student in the Department of Social Work. The recipient, selected by the head of the department, must be a resident of West Virginia.

The Morgantown Service League Scholarship. This scholarship provides $150 a year for a full-time student in the Department of Social Work. The student must be a resident of the state and approved by the head of the department.

The State Department of Public Assistance Scholarships. These Social Work scholarships, ranging from small sums up to $125 a month or more, are available to selected employees of the Department who hold an undergraduate degree from an accredited college or university. Application for these scholarships must be made to the chief of the Division of Social Services or to the chief of the Division of Child Welfare of the State Department of Public Assistance, Charleston. Such students must also be approved by the head of the Department of Social Work.

The pharmacists of West Virginia, individually and collectively, have provided a number of scholarships in the amount of $150 per year for capable high-school graduates needing financial assistance to assist in their pharmaceutical education. The final selections of these scholarships are made by a committee of the West Virginia State Pharmaceutical Association. Additional information may be obtained from the Dean of the College of Pharmacy.

The American Foundation for Pharmaceutical Education. This foundation, in order to stimulate an interest for pharmacy as a profession among capable high-school graduates, has assigned several scholarships to the College of Pharmacy. Each scholarship or grant covers tuition fees for one year. Selections for the awards are made by the faculty of the College and are awarded on the basis of scholarship and financial need. The holder may be eligible for reappointment. Additional information may be obtained from the Dean of the College.

The School of Journalism Scholarships. Six scholarships in Journalism of $100 each are awarded annually to pre-journalism freshmen and sophomores and to professional juniors and seniors on the basis of ability, scholastic achievement, and promise for a successful journalistic career. Scholarship holders are eligible for reappointment. These scholarships were established in 1945. Two of them are known as the Daily Mail Scholarships and were established by Walter E. Clark

and Fred M. Stanton of the Charleston Daily Mail. Two are known as the Lewis Baker Scholarships and were established by Mrs. Guy Despard Goff of New York City in memory of Lewis Baker, her father, who was a newspaper executive in Wheeling. The other two are known as the Ogden Scholarships and were established by the News Publishing Company of Wheeling in honor of the late H. C. Ogden, publisher and alumnus. These scholarships are awarded upon the recommendation of the School of Journalism.

The R. M. Davis Scholarship in Political Science. R. M. Davis, Morgantown, West Virginia, coal operator, has given to the University the sum of $5,000 to establish a scholarship in the Department of Political Science. The scholarship, with an average annual value of between $300 and $500, will be granted to an undergraduate or graduate student registered in the Department of Political Science whose speciality is international relations. The staff of the Department will select the winner. Scholastic standing and qualities of leadership will be given primary consideration in awarding the scholarship. Any West Virginia University student whose major is in Political Science and who is interested in being considered for this scholarship should write directly to the head of the Department of Political Science.

The Kroger Company Scholarship. The Kroger Company will give three scholarships of $200 each, to be divided between Agriculture (one) and Home Economics (two). Awards on the bases of scholarship and leadership in school, church, F.F.A., F.H.A., 4-H, and other youth activities will be made by the Scholarship Committee of the College of Agriculture, Forestry, and Home Economics.

The Standard Oil Company of New Jersey Scholarship. In 1947 the Standard Oil Company of New Jersey provided a four-year scholarship of $100 per year to a boy in 4-H work in West Virginia. Selection of recipients is made by a committee consisting of the State Director of Extension, the State Club Leader, and the Dean of the College of Agriculture. Selection is made on the bases of need, merit, and ability.

The West Virginia Coal Association Scholarships. The sum of $5,000 per year for each of five years beginning in 1947 was given by the West Virginia Coal Association to establish eight scholarships in coal mining engineering. Each scholarship is for $625 per annum. Nominations for the scholarships may be made by the West Virginia Coal Association, by any member of that body, by any coal mine superintendent, by any high-school principal or teacher, or by any graduating high-school senior or recent graduate placing himself in nomination. All nominations should be addressed to the Director of the School of Mines, West Virginia University.

The Claude Worthington Benedum Scholarship. This annual scholarship of $850 was established in 1947 by M. L. Benedum of Pittsburgh, Pa., in memory of his son who died in military service during World War I. The recipient shall be a male graduate of Bridgeport (West Virginia) High School, and the selection shall be made by the Principal of the Bridgeport High School and by the Director of Student Affairs at West Virginia University.

The Central Appalachian Section of the American Institute of Mining and Metallurgical Engineers has awarded three scholarships to boys in Kentucky, West Virginia, and Virginia. These boys are eligible to attend any school in the area giving mining engineering.

The Lakin Roberts Memorial Scholarship. This scholarship is open to graduate students in Education and is worth $200 per year. (Inoperative during the current academic year.)

The KDKA Agricultural Scholarship. To recognize outstanding leadership, to encourage use of radio in disseminating agricultural information, and to help train students in broadcast techniques, Station KDKA, Pittsburgh, Pa., has established this scholarship amounting to $100, for one junior or senior agricultural

student to be chosen each year by the Scholarship Committee of the College of Agriculture, Forestry, and Home Economics.

The Kelley's Creek Colliery Company Scholarship. This scholarship was established in 1948 by the Kelley's Creek Colliery Company. The winner is determined by competitive examination conducted by the University and continues on the scholarship for four years if a satisfactory average is maintained. The scholarship is valued at $160 per year.

The Red Jacket Coal Corporation Scholarships. In 1948 the Red Jacket Coal Corporation created two undergraduate scholarships in the School of Mines, carrying an annual value of $600 each. Winners are selected by competitive examination conducted by the School of Mines.

The Palace Furniture Company Scholarship. Established in 1946 by the Palace Furniture Company and Radio Station WBLK of Clarksburg, this four-year scholarship is valued at $320 and is awarded to the final winner of the radio-quiz program, Palace Kollege of History Knowledge, which is open only to Harrison County high-school students.

The West Virginia Moose Association Scholarship. This scholarship was established in 1946 by the West Virginia Moose Association. It pays for the tuition, books, room, and board for four years in any undergraduate college on this campus that the high-ranking male student of Mooseheart, Illinois, may elect.

Science Talent Search Scholarship. The University Board of Governors and the West Virginia Academy of Science established the Science Talent Search Scholarship beginning with the school year 1949-50. The scholarship entitles the recipient to remission of all fees, except those payable to State Special Funds and those chargeable to Special Services. The recipient is selected by and under the rules of the West Virginia Academy of Science which awards in cash an amount not less than the total of the fees remitted by West Virginia University.

Richard Aspinall Scholarship. This scholarship was established in 1944 by the Morgantown Moose Lodge No. 264. It pays for tuition, books, and room and board for four years in any undergraduate college on this campus that the high-ranking graduate of Mooseheart, Illinois, may elect.

Rachel Colwell Scholarship. This scholarship was established and is supported by Phi Upsilon Omicorn, professional home economics organization. Alumni and active chapters cooperate in providing a tuition scholarship to an entering freshman who proposes to major in Home Economics at West Virginia University. Selection is based upon the candidate's high-school record, including experiences in such organizations as 4-H and F.H.A. Blanks upon which applications may be made are available through the Division of Home Economics, West Virginia University.

Kanawha Valley Mining Institute Scholarships. Two scholarships, valued at $600 per year, were established by the Kanawha Valley Mining Institute, Inc., of Montgomery, West Virginia, in 1948 and 1949, respectively. Selection is made by the Kanawha Valley Mining Institute with the approval of the School of Mines of West Virginia University.

McDowell Club Scholarship. One scholarship valued at $100 is awarded annually by the campus student organization known as the McDowell Club. Selection is made by competitive examination under the direction of the County Superintendent of Schools.

Sophia and Clora Benedum Scholarship Fund. The will of the late Clora Benedum of Bridgeport, West Virginia, who passed away in January, 1949, established a $10,000 trust fund to be known as the Sophia and Clora Benedum Scholarship Fund. The provision of the will concerning the fund states that "income is to be used in assisting graduates of Bridgeport High School in attending West Virginia University." The scholarships are administered by the University Committee on Prizes, Scholarships, and Loan Funds.

The Charleston Press Club Scholarship. This scholarship was established in 1951 by the Press Club of Charleston, West Virginia. It has a value of $200 per year, but may be awarded only in the amount of $100 each semester. Recipient must be a sophomore, a junior, or a senior in the School of Journalism and must be a resident of West Virginia. Ability, scholastic standing, promise for a journalistic career, and financial need are considered chiefly in making awards.

Jackson-Perks Post No. 71 Scholarship. Established in 1951 by The American Legion, Charles Town, West Virginia, this four-year scholarship is valued at $500.

Jane Addams Memorial Scholarship. This scholarship was established in 1951 by an anonymous donor residing somewhere in West Virginia in memory of Jane Addams for a worthy student in the field of Home Economics. The scholarship provides a cash grant of $150.

Leyenberger Scholarship. This annual scholarship of $1,000 was established in 1951 by an anonymous donor of Wheeling, West Virginia. This scholarship is available from time to time to a worthy student enrolled in the University and who is selected by the University Scholarship Committee.

Logan Woman's Council Scholarship. This scholarship was established in 1951 by the Logan Woman's Council of Logan, West Virginia. It has a value of $1,000 per year, but may be awarded only in the amount of $500 each semester. This scholarship is available from time to time to a worthy student enrolled in the University. Selection is made by the University Scholarship Committee.

West Virginia Division of the United Daughters of the Confederacy Scholarship. This scholarship was established in 1950 by the West Virginia Division of the United Daughters of the Confederacy. It has a value of $100 per year. Selection is made by the United Daughters of the Confederacy.

Women of the Moose Scholarship. This scholarship was established in 1951 by the Women of the Moose. This four-year scholarship is valued at $5,000 and is awarded to a high-ranking graduate of Mooseheart, Illinois.

The West Virginia Farm Women's Council Scholarship (Foreign). This scholarship, established in 1949 for the purpose of promoting better understanding between rural people of this country and rural people of foreign countries, provides for books, board, room, and other necessary living expenses of a foreign student enrolled in the College of Agriculture, Forestry and Home Economics, with a major in Home Economics.

The West Virginia Farm Women's Council Scholarship (State). This scholarship of $100 is available to a freshman girl enrolled in the Division of Home Economics. Selection will be made by a committee composed of a representative from each of the following groups: Farm Women's Council, Division of Home Economics, and Agricultural Extension Service.

The Patrick Duffy Koontz Scholarships. The late Patrick Duffy Koontz, Esq., and Arthur Burke Koontz, Esq., have donated to the University certain securities, the income from which is to be used for the purpose of establishing scholarships in the College of Law for worthy students from West Virginia. The value of each scholarship awards is $250. The first of these awards will be made during the academic year 1949-50. These scholarships are to be awarded to such second- or third- year students as, in the judgment of a committee of the faculty of the College of Law appointed by the President, shall have shown outstanding promise with respect to the following qualities: (1) scholastic ability and attainments; (2) moral force of character and leadership.

The Guy Farmer Scholarship. Guy Farmer, Esq., has made a donation to the University for the purpose of establishing scholarship awards to such members of the Student Board of Editors of the *West Virginia Law Review* as, in the judgment of the faculty of the College of Law, shall have made outstanding contributions to the *Law Review*. The value of each of the awards is $50. No more than one award will be made in any one year.

Fellowships

Bituminous Coal Research, Inc., Fellowship. A fund of $10,000 per year for a fellow and an assistant, and also for current expense and overhead, to study causes of acid formation in mine-drainage waters and to supply means of reducing, eliminating, or utilizing such acidity.

International Nickel Company Fellowship. A fund of $1200 per year for a fellow, plus $480 a year for supplies and overhead, for studies of heat transfer through metal walls.

The Edward Orton, Jr. Ceramic Foundation Fellowship. In October, 1950, the Edward Orton, Jr. Ceramic Foundation of Columbus, Ohio, established a fellowship of $1200 for research fundamental in character and primarily applicable to those branches of the ceramic industry making kiln fired wares. Candidates for this fellowship must have completed either a recognized course in ceramic engineering or technology or shall have acquired basic fundamental ceramic knowledge following the completion of a recognized course in engineering or the sciences. Applications should be submitted to the Director of the Engineering Experiment Station.

Loan Funds

The following loan funds are administered through the office of the Director of Student Affairs, with the cooperation of advisory committees, University officials, and alumni. Applications may be filed with Joseph C. Gluck, 205 Administration Building.

The John B. Finley Fund. A fund of $1,000 was contributed to the University by the trustees of the estate of the Hon. John B. Finley of Pittsburgh, Pa., in accordance with his last will and testament, to be used as loans to deserving students in the School of Medicine.

The Theodore Smith Fund. On April 13, 1930, Theodore Smith was drowned in the Monongahela River. His tragic death disclosed the fact that he was being financed through the University by the late Hon. James Elwood Jones. He had taken out a life insurance policy of $2,000 with Mr. Jones as beneficiary. In deference to the memory of Theodore Smith, Mr. Jones turned the $2,000 over to the University for the establishment of the Theodore Smith Fund.

The Baltimore and Ohio Railroad Fund. A special fund for small loans to students in the College of Agriculture has been established by the Baltimore and Ohio Railroad.

The Chauncey Watson Boucher Fund. This fund was established in 1936 by former President C. S. Boucher in memory of his father. Seniors from West Virginia may borrow only for the payment of University fees. Loans must be repaid within two years and are without interest.

The Charles E. Lawall Fund. Established in 1939 for small loans to worthy students; available to students whose scholastic record has been satisfactory; interest payable only for periods in excess of time for which the loan is granted.

Alfred Walker Fund. This is a special fund for loans to Pharmacy students, established in 1938 by Dean J. Lester Hayman in honor of the memory of Alfred Walker of Sutton, first president of the West Virginia Pharmaceutical Association and, for many years, secretary of the State Pharmaceutical Association.

The John W. Davis Fund, established for the making of loans to outstanding law students, aids worthy students each year.

The P. C. Thomas Fund. In May 1943 the P. C. Thomas loan fund was established in memory of the late P. C. Thomas of the Koppers Coal Company. The initial contribution made by the employees of the Company was $520.

The Kellogg Foundation Fund. The Kellogg Foundation in 1942 allotted $5,000 to West Virginia University for loans to students of medicine. Loans may not exceed $150 during any academic year. The total loan to one student may not exceed $250. Interest is charged at the rate of 2 per cent. Students may not borrow until after the successful completion of one term in the School of Medicine.

The Leon Leonian Memorial Fund. Established in July 1945 in honor of the memory of Dr. Leon H. Leonian. Small loans are made to students for a short period without interest.

The Loyalty Permanent Endowment Loan Fund of the W.V.U. Alumni Association. This fund was established some many years ago by contributions of alumni and other friends of the University. It is a permanent trust fund, the income of which is available to worthy students.

West Virginia State Conference of Social Work Fund. In 1940 the State Conference of Social Work established a student loan fund for the department of Social Work, such fund to be granted, without interest, to eligible full-time graduate Social Work students who are residents of West Virginia.

Howard T. Phillips Loan Fund. The late Dr. Howard T. Phillips of Wheeling set aside in his will a grant of approximately $1,000 for loans to medical students at West Virginia University. The fund was set in motion in the fall of 1949. Dr. Phillips stipulated that loans from this fund should be made to "students who are deserving as well as needy and who are enrolled in the Medical School."

Fred G. and Nannie D. Wood Loan Fund. In November, 1949, the Fred G. and Nannie D. Wood Loan Fund was created by an initial gift of $1,000 from Fred G. Wood, retired Raleigh County coal operator now living at Daytona Beach, Florida. The fund provisions state loans shall be made to assist students to receive training in the engineering of coal mines, and that "preference shall be given to students from families engaged in coal mining, or who have grown up in coal mining communities."

The Revolving Emergency Loan Fund. A fund to meet emergencies of University students was established in October, 1931. The principal of this fund amounts to about $3,000. H. E. Stone was founder of the fund. Loans are made in small amounts and for short periods of time.

Service Clubs Loan Fund of West Virginia University, Inc. In 1950 the West Virginia Kiwanis District established a non-restricted loan fund for needy University students. This loan fund is administered through the Office of the Director of Student Affairs. Any student who is in good standing in the University and is in need of some financial help may receive a loan. The fund is operated on a non-profit basis and the low rate of interest charged is to go toward the building up of the total amount that will be available for the student loans.

Social Work Alumni Loan Fund. This fund, totaling $100 at present, was established in 1951 for the benefit of undergraduate or graduate students in the Department of Social Work, irrespective of residence. Loans are made by the Director of Student Affairs with the approval of the Head of the Department of Social Work. No interest is required, and loans are to be repaid within two years after the student has completed his current degree objective.

John M. Crawford and David B. Crawford Loan Fund. In November, 1951, the Parkersburg Rig and Reel Company, Parkersburg, West Virginia, established the John M. Crawford and David B. Crawford Loan Fund with an initial gift of $5,000. The purpose of this fund is to assist accredited students who are seeking a degree in engineering or geology and who have financial need. Loans are available to students who are graduates of West Virginia high schools, and seeking a degree in engineering, preferably petroleum engineering or geology.

Lily Bell Sefton Deatrick Student Loan Fund. Established in 1947 by the Campus Club in memory of Lilly Bell Sefton Deatrick. Small loans are made to students without interest until after graduation. The fund is administered by the Dean of the College of Arts and Sciences and the head of the Department of Chemistry.

P. I. Reed—Journalism Alumni Loan Fund. This fund was started in 1949 by members of the Journalism Class of 1940 to provide small emergency loans to University students majoring in Journalism. The fund was raised through contributions of Journalism alumni of various classes. Loans should be repaid in one to three months. The fund honors Dr. P. I. Reed, Director of the School of

Journalism since it was formed in 1939, and former head of the Department of Journalism.

Elizabeth McAllister Crawford and John McLenaghan Crawford Fund. In October, 1950, the Consolidated Natural Gas System Educational Foundation established the Elizabeth McAllister Crawford and John McLenaghan Crawford Loan Fund with an initial gift of $10,000. The purpose of this fund is to assist students who are without other resources from which their educational needs may be met. To be eligible for this aid, a student must be a graduate of a West Virginia high school, enrolled in a course leading to a degree, and must have completed at least the first semester of the freshman year.

Maud George Memorial Fund. In September, 1950, Mr. Charles A. George of Ronceverte, West Virginia, in memory of his aunt, established the Maud George memorial Loan Fund, in the amount of $50 per semester or $100 per academic year, during his lifetime, for a man or woman student from either Greenbrier or Monroe counties, West Virginia, who is enrolled in Agriculture, Home Economics, or the Forestry Division. Application should be made to the Dean of the College of Agriculture.

The Senior Class Loan Fund. A gift of $100 was given by the 1949 Senior Class to be used for aid to seniors in the University needing financial assistance. The Senior Class of 1950 supplemented this fund with their gift of an additional $100. Small loans are made without interest.

PRIZES, TROPHIES, AND MEDALS

Prizes

Awards for prizes in the University are made in accordance with the following rules:

No composition, in whole or in part, shall be submitted in competition for two prizes.

Only students pursuing courses leading to baccalaureate degrees are eligible for any prize offered, except for the James F. Brown prize.

No student shall be eligible to enter any contest who has not been a resident student in this University for at least one semester preceding the semester in which the contest is to be held, and who, unless he be a competitor for the James F. Brown prize, is not a resident student in good standing in the University in the semester in which the contest is held.

No successful contestant may become for a second time a competitor for the same prize.

If in any contest the judges find no manuscript of sufficient merit, there shall be no award for the prize that year.

Students intending to compete in any essay-writing contest must notify the chairman of the Committee on Prizes not later than March 15, Three typewritten copies of each essay must be in the hands of the chairman of the committee not later than May 15.

The conditions upon which the awards in the several contests are made may be learned upon application to the office of the Director of Student Affairs.

The Tax Commission Prize. The honorable members of the State Tax Commission of 1902, namely W. P. Hubbard, Henry G. Davis, John K. Thompson, L. J. Williams, and J. H. Holt, gave the sum of $1,350, later increased by unawarded sums to $1,500, the income of which is to be used annually as a prize for the "best original work bearing on matters of taxation in West Virginia." The conditions of the competition are determined by the Council of Administration. The amount of the prize at present is $50. The subject assigned for 1951-52 is "Methods of improving the assessment of property in West Virginia."

The James F. Brown Prize. The Hon. James F. Brown, an alumnus of the University, "with a desire to stimulate the young men of the State to fuller consideration of the 'inalienable right' of mankind, and especially those guaranteed

by the Constitution of the State and the United States," has contributed $5,000 to the University, the income of which is to be "used as a prize for the best essay or paper each year on the subject of the individual liberties of the citizen as guaranteed by the Constitution." The income may be given as a single prize, or it may be divided into a first and second prize. For the present the award will be made as a single prize, $200 in amount. Any regularly enrolled student in any school or college of the University or any student within one year after receiving an undergraduate degree may compete for this prize. Graduates of the College of Law or the School of Medicine or holders of any post-graduate degree are not eligible to compete for this prize. The subject assigned for 1951-52 is "The advisability of amending the West Virginia Constitution to permit suits against the State."

The West Virginia State Pharmaceutical Association Prize. The West Virginia State Pharmaceutical Association offers to the student making the best set of drawings in Pharmacy 10 a two-year, paid-up membership in the American Pharmaceutical Association.

The Waitman Barbe Memorial Prize. The English Club of West Virginia University offers an annual prize of $25 in memory of Waitman Barbe, poet, scholar, and adviser of the English Club during his long term of service on the faculty. The prize is awarded to some student regularly enrolled as a junior or senior in West Virginia University, for creative work in the field of literature, either in prose or poetry or both. The minimum length of such compositions must be four thousand words in prose or one hundred lines in poetry.

The Board of Governors Military Essay Prize. The Board of Governors of West Virginia University each year offers a prize of $50 to the cadet in the Division of Military and Air Science and Tactics "who shall write the best essay on preparation against war."

Chi Omega Sorority Prize. The Chi Omega sorority offers an annual $15 prize to the Sociology major with the highest academic ranking. All work done at West Virginia is taken into account and no student is eligible to compete for the prize unless his junior and senior years have been spent at West Virginia University. The prize is awarded at the annual Commencement.

Phi Lambda Upsilon Fraternity Prize. Phi Lambda Upsilon, honorary chemical fraternity, offers annually the Alexander Reed Whitehill award to the student receiving the highest grade in chemistry during the freshman year. The award consists of an engraved ornament.

Tau Beta Pi, honorary Engineering fraternity, each year offers an engraved cup to the sophomore engineer who during his freshman year maintained the highest average in his class.

The Rufus A. West Award for Engineering Students. The late Rufus A West, a former instructor of the University, because of his interest in the College of Engineering and in the young men who have been and are students there and with the further idea of promoting sound scholarship, bequeathed $10,000, the income of which is to be used as an award to the member of the graduating class of the College of Engineering in June who has maintained the highest scholarship as measured by his grade-point average. The first date for the presentation of this award will be June, 1953.

The La Verne B. Davis Home Economics Award. This award ($25.00) was established and is supported by Mr. and Mrs. Richard Earle Davis. The award is presented annually at Commencement time to the graduating senior in the Division of Home Economics who has maintained the highest scholastic average during four years of residence.

The Nathan Burkan Memorial Prize. The American Society of Composers, Authors, and Publishers has established the Nathan Burkan Memorial Competition, open to the leading universities and colleges of the country that offer a course in law. A prize of $100 is available in each institution, to be awarded to the student in the graduating class in Law who prepares the best paper on the subject of "Copyright Law."

The Intercollegiate Peace Association of America provides $100 in cash prizes to be awarded as follows: $50 for first prize; $30 for second prize; and $20 for third prize in the annual Intercollegiate Peace Oratorical Contest. This contest is held under the auspices of the Department of Speech of the University and each institution of higher learning in the state is entitled to send one representative.

The Sigma Xi Award. Sigma Xi, the national honary scientific research society, annually gives an award to the senior student majoring in science who shows most promise in research. The award consists of election to associate membership in Sigma Xi, with the initiation fee and Associate's key donated by the West Virginia Chapter.

West Virginia Oil and Natural Gas Association Prize for Students in the School of Mines. In order to stimulate interest on the part of oil and natural gas engineering students in their profession, the West Virginia Oil and Natural Gas Association offers a prize of $25 each year to a member of the graduating class of the School of Mines. The student must be enrolled in the oil and natural gas option, and his scholarship must be the highest of that group as measured by his grade-point average.

West Virginia Coal Mining Institute Prize for Students in the School of Mines. In order to stimulate interest on the part of mining engineering students in their profession, the West Virginia Coal Mining Institute offers a prize of $25 each year to the members of the graduating class of the School of Mines. The student must be enrolled in the coal mining option, and his scholarship must be the highest of that group as measured by his grade-point average.

The Charles E. Lawall Award. This award was created in 1952 through the generosity of D. L. McElroy of Pittsburgh, Pa., and will be given in the first semester of each school year to the senior student maintaining the best scholastic average in the first one hundred hours of the required curriculum. Students in the coal mining option and the oil and gas option are eligible. This award carries a cash payment of $50.00.

The James Wimer Memorial Award. This award pays tuition for one year. The donor desires anonymity. The award is given to the senior making the highest average in his first three years in Chemical Engineering.

The Merck Award. Merck and Company, Inc., manufacturing chemists of Rahway, N. J., offers an award consisting of the current edition of *The Merck Index*, the Merck *Manual of Therapeutics and Materia Medica*, and *Reagent Chemicals and Standards* to the graduating senior who attains the highest grade in Pharmacy 113.

Trophies

Alpha Epsilon Delta Prize. The Alpha of West Virginia chapter of Alpha Epsilon Delta offers each year a silver cup to the freshman premedical student who has made the best scholastic record for the year in chemistry and zoology.

The Louis D. Corson Interfraternity Scholarship Trophy. This trophy is awarded at the end of the University year to the fraternity having the highest average scholarship standing for that year and is to remain in possession of that fraternity during the following year. The cup becomes permanent property of the fraternity that wins it three times.

The School of Physical Education and Athletics offers two trophies to the fraternities scoring the highest and second-highest number of points in the all-year athletic competition for fraternities.

Pan-Hellenic Association Scholarship Cups. The Pan-Hellenic Association offers two scholarship cups. Any sorority which is a member of the Women's Pan-Hellenic Council may compete for the cup, and it is awarded each year to the group having the highest average. The women's fraternity which has maintained the highest average for three consecutive years is given permanent possession of the cup. The Pan-Hellenic Association also offers a cup each year to the pledge group which maintains the highest average.

Rho Chi Awards. In order to stimulate superior scholastic ability among students in the College of Pharmacy, Alpha Mu Chapter of Rho Chi, honorary society, offers the following awards:

An appropriately engraved trophy to the student attaining the highest scholastic record the first year of enrollment in the College.

The current edition of the *United States Dispensatory* to the student attaining the highest scholastic record during the sophomore year.

Medals

The Lehn and Fink Medal. Through the generosity of Lehn and Fink, manufacturing chemists of New York City, the College of Pharmacy awards a gold medal each year to the senior Pharmacy student who, in the opinion of the faculty of the College of Pharmacy, attains the highest scholarship. The medal is appropriately engraved.

Prizes in Public Speaking. In each of the four events (debate, oration, extempore speaking, and poetry reading) in the West Virginia Interscholastic Public Speaking Contest a gold medal is awarded to the winner of first place; a silver medal to the winner of second place; and a bronze medal to all other speakers who participate in the semi-finals at the University. Each high school represented by a winner of first place is presented with a beautiful wall plaque with the escutcheon of the University mounted upon it.

The Alpha Kappa Psi Scholarship Key Award. Beta Rho Chapter of Alpha Kappa Psi, a professional fraternity of commerce, awards annually the Alpha Kappa Psi Scholarship Key to the male senior in the Department of Economics and Business Administration, who has attained the highest scholastic average for a minimum of six semesters of collegiate work in this University.

HONOR SOCIETIES

Alpha Epsilon Delta (Premedical). The Alpha of West Virginia chapter of Alpha Epsilon Delta was established at West Virginia University in 1930. The chief object of the society is promotion of high scholarship among premedical students. Juniors and seniors of high scholarship and character are eligible for membership.

Alpha Psi Omega (Dramatics). Pi chapter of Alpha Psi Omega was formed at West Virginia University in 1926. Recognition is given as a reward to students distinguishing themselves in dramatic productions, both by playng roles and by performing other outstanding duties on the technical and business side of productions.

Alpha Zeta (Agriculture). The West Virginia chapter of Alpha Zeta, the national agricultural honor fraternity, was instituted in the College of Agriculture in 1921. Sophomores and upperclassmen who maintain high standing in scholarship and rank among the upper two-fifths of their respective classes are eligible to membership.

Chi Epsilon (Civil Eng'g). Chi Epsilon, the recognition society in the field of civil engineering fosters the development and exercise of fundamentally sound traits of character and technical ability among engineers which will work towards a higher standard of service offered to humanity by the profession. The West Virginia chapter was formed in 1949. Membership is open to outstanding members of the junior and senior classes.

Delta Nu Tau (Pre-Law).

Epsilson Lambda Sigma (Accounting). This is a local honorary society for outstanding students in Accounting with high scholastic averages. The purpose of Epsilon Lambda Sigma is to promote the moral, intellectual, and social developments of its members; to encourage individual research; and to foster interest in the field of accounting at West Virginia University.

Eta Kappa Nu (Elec. Eng'g). Eta Kappa Nu, an Electrical Engineering honorary society installed at West Virginia University in 1946, is open to students in the upper fourth of the junior class and in the upper third of the senior class.

Kappa Delta Pi (Education). Kappa Delta Pi, national honorary educational society installed Alpha Upsilon chapter at West Virginia University on July 21, 1927.

Election to this fraternity is conditional upon high scholarship and desirable personal and professional qualities.

Kappa Tau Alpha (Journalism). This is a national journalistic honor society with special emphasis on high scholarship and the best professional ideals. There are chapters in twenty-two universities. The West Virginia chapter was established in 1930.

Mortar Board (Student Leadership—Women). Laurel Chapter of Mortar Board, national women's honorary, was instituted at West Virginia University in 1924. The purpose of Mortar Board is: "to provide for the cooperation between the senior honor societies for women, to promote college loyalty, to advance the spirit of scholarship, to recognize and encourage leadership, and to stimulate and develop a finer type of college women." Qualifications for membership are service, scholarship and leadership. New members are elected to Mortar Board in the spring from women who will have completed their junior year by the opening of the fall term. Elections are by unanimous vote of active members. A scholarship standard must be met by each candidate.

Omicron Nu (Home Economics). On October 16, 1951, Omicron Nu, national honor society in Home Economics, was established at West Virginia University. The society has as its purposes "the promotion of scholarship, leadership and research, and the advancement of home economics throughout the world." Membership in Omicron Nu is based upon high scholarship and promise of future achievement. Only persons from the highest 20 per cent of the class are eligible for membership. Election is not permitted earlier than the fifth semester of the college course.

Order of the Coif (Law). A chapter of the Order of the Coif, national law school honor society, was installed in 1925. Its members are selected by the law faculty from 10 per cent of the senior class in the College of Law ranking highest in scholarship.

Phi Beta Kappa (Scholarship). The Alpha of West Virginia chapter of the Phi Beta Kappa Society is established at the University. Stated meetings or public exercises of the society are held twice annually; the anniversary meeting on December 5, and the annual meeting during Commencement Week. The honor of membership may be conferred upon candidates for the Degree of Bachelor of Arts, the Degree of Bachelor of Science (if they also meet the requirements for the former), or for the Degree of Doctor of Philosophy who have maintained a high scholarship rank during their college courses; also, upon outstanding alumni of the University, and persons attaining national or international reputations in letters, science, or education.

Phi Epsilon Phi (Botany). Phi Epsilon Phi, botanical honor fraternity, was founded at West Virginia University in 1929. The fraternity has for its purpose promotion of high scholarship, inciting of interest in botanical research, and encouragement of professional ideals. Seniors and graduate students who are engaged in botanical work and who have attained a high standard of scholarship and character are eligible for membership.

Phi Lambda Upsilon (Chemistry). The Tau chapter of Phi Lambda Upsilon, national chemical honor fraternity, was established at the University in 1924. The chief object of the society is promotion and protection of high scholarship and original investigation of all branches of pure and applied chemistry. Seniors and juniors who have attained a high standard of scholarship and character are eligible.

Pi Delta Phi (French).

Pi Tau Sigma (Mechanical Eng'g). The West Virginia Pi Gamma chapter of Pi Tau Sigma was installed at West Virginia University on March 31, 1942. This is an honorary mechanical engineering fraternity with chapters in thirty-five universities. Seniors and juniors in Mechanical Engineering who have attained high scholarship rank are eligible for membership.

Psi Chi (Psychology). West Virginia chapter of Psi Chi, national recognition society in the field of psychology, was formed November 15, 1948. Membership is open to psychology majors and minors who have a high scholastic average. The purpose of the society is primarily to advance the science of psychology and is further concerned with stimulating scholarship of the individual members in all academic fields.

Rho Chi (Pharmaceutical). Rho Chi, National Honorary Pharmaceutical Society, installed Alpha Mu chapter at West Virginia University, January 28, 1949. The object of the Society is "the promotion of scholarship and friendship and recognition of high attainments in the pharmaceutical sciences." A student elected to membership must have completed 75 hours of scholastic work, attained a scholastic average of "B" or better, shown capacity for achievement in the science and art of pharmacy and the allied sciences as evidenced by strength of character, personality, and leadership; and be approved by the Dean of the College of Pharmacy.

Scabbard & Blade (Military). C Company, Second Regiment, West Virginia University, the National Society of Scabbard and Blade, was installed on May 21, 1916. The society believes that military service is an obligation of citizenship and that the greater opportunities afforded college men for the study of military science place upon them certain responsibilities as citizens. The purpose is to create and unite in closer relationship the military departments of American universities and colleges; to preserve and develop the essential qualities of good, efficient officers; to prepare themselves as educated men to take a more active part and to have a greater influence in military affairs of the communities in which they may reside; and above all to spread intelligent information concerning military requirements of our country. Advanced Course R.O.T.C. and A.R.O.T.C. students who maintain high standing in scholarship, leadership, character, and efficiency are eligible for membership.

Sigma Gamma Epsilon (Earth Sciences). Upsilon chapter was established at West Virginia University in 1927. The fraternity has for its objects the social, scholastic, and scientific advancement of its members; extension of the relations of friendship and assistance between the universities and scientific schools with recognized standing in the United States and Canada; and upbuilding of a national college society devoted to advancement of geology, mining, metallurgy, and ceramics. Seniors and juniors in the courses indicated, who have attained high scholarship rank, are eligible for membership.

Sigma Pi Sigma (Physics). Theta chapter of Sigma Pi Sigma, national physics honor society, was installed in the University in 1929. The formal statement of objects of the society is: "To reward high scholarship and promote interest in the advanced study of physics, to stimulate individual research, and to enable its members to keep pace with the progress of science." A student elected to membership must be taking some course in physics at the time of his election. Graduate students who are taking advanced work in physics and related subjects are eligible for membership.

Sigma Xi (Scientific Research). The Society of the Sigma Xi is a national honorary society devoted to advancement of research in pure and applied science. Membership may be conferred upon faculty members and students who show outstanding ability in some field of scientific research.

Sphinx (Senior Men's Honorary). Sphinx, Senior Men's Scholarship Society, was established at West Virginia University in 1909. Its purpose is to accord suitable recognition to students of high standing in scholarship. The local chapter acts as a sponsor and preserver of all such college traditions as it may find worthy; and to act for the inspiration, betterment, and guidance of the Freshman Class.

Tau Beta Pi (Engineering). The West Virginia Alpha chapter of the national engineering honor association of Tau Beta Pi was established in the College of Engineering in 1922. Students who rank in scholarship among the upper one-eighth of their class are eligible to election in their third year and all who rank among the upper one-fourth of the class are likewise eligible in their fourth year. These together with alumni and honorary members constitute the chapter.

Xi Sigma Pi (Forestry). Xi Sigma Pi, forestry honor society, was established at West Virginia University on May 16, 1950. The objects of Xi Sigma Pi are "to secure and maintain a high standard of scholarship in forest education, to work for the upbuilding of the profession of forestry and to promote fraternal relations among earnest workers engaged in forest activities."

OTHER UNIVERSITY ORGANIZATIONS

There are in the University various fraternities, sororities, societies, and clubs devoted chiefly to social, educational, and athletic interests of students. Some of

the more important of these organizations are:

National and Greek Letter Societies

SOCIAL FRATERNITIES

Men

Alpha Phi Delta
Alpha Gamma Rho
Alpha Sigma Phi
Beta Theta Pi
Delta Tau Delta
Kappa Alpha
Kappa Sigma
Kappa Sigma Kappa
Lambda Chi Alpha
Phi Delta Theta
Phi Kappa Psi
Phi Kappa Sigma
Phi Sigma Delta
Phi Sigma Kappa
Pi Kappa Alpha
Pi Lambda Phi
Sigma Chi
Sigma Nu
Sigma Phi Epsilon
Tau Kappa Epsilon
Theta Chi
Council of Fraternity Presidents

Women

Alpha Delta Pi
Alpha Phi
Alpha Xi Delta
Chi Omega
Delta Gamma
Kappa Delta
Kappa Kappa Gamma
Pi Beta Phi
Sigma Delta Tau
Pan-Hellenic Association

PROFESSIONAL HONORARY FRATERNITIES

Alpha Kappa Psi (Commerce)
Alpha Tau Alpha (Vo-Ag)
Mu Phi Epsilon (Music, Women)
Phi Alpha Delta (Law)
Phi Beta Pi (Medical)
Phi Delta Phi (Law)
Phi Mu Alpha Sinfonia (Music, Men)
Phi Upsilon Omicron (Home Economics)
Theta Sigma Phi (Journalism, Women)

National and Local Organizations

Associated Women Students
Block & Bridle Club
Canterbury Club
Chimes (Junior, Women)
Dolphin
English Club
Fi Batar Cappar
Forestry Club
General Engineering Society
Geology Club
German Club (Der Deutsche Verein)
Home Economics Club
Horticulture Club
Independent Men's Association
Independent Party
International Relations Club
Journaliers (Men, Journalism)
La Tertulia (Spanish)
Li-Toon-Awa (Sophomore, Women)
McDowell Club
Men's Dormitory Council
Men's Glee Club
Mountain (Men)
Mountaineer Poultry Club
Orchesis (Women, Physical Education)
Physical Education Club
Press Club (Journalism Majors)
Sociology & Social Work Club
Student (Intervarsity) Christian Fellowship
Student Party
University Band
University-Community Mixed Chorus
University-Community Symphony Orchestra
University 4-H Club
University Religious Council
West Virginia University Philosophical Society
West Virginia University Professional Recreation Society
West Virginia University Student Marketing Club

Women's Glee Club
Women's Recreation Association
Writers Forum
Young Men's Christian Association
Young Republican's Club of W.V.U.
Young Women's Christian Association
Student Branches of the following:
American Chemical Society
Amer. Inst. of Chemical Engineers
Joint Amer. Inst. of Electrical Engineers & Inst. of Radio Engineers
Amer. Pharmaceutical Association
Amer. Society of Agricultural Engineers
Amer. Society of Civil Engineers
Amer. Society of Mechanical Engineers
Music Educators National Conference
Society for Advancement of Management
Society of West Virginia University Mining Engineers
W. Va. Collegiate Academy of Science

Fraternity Advisers

Alpha Gamma Rho, J. K. Bletner; Alpha Phi Delta, Earl L. Core; Alpha Sigma Phi, Marlyn E. Lugar; Beta Theta Pi, Charles D. Thomas; Delta Tau Delta, Charles E. Roberts; Kappa Alpha, Carter R. Bishop; Kappa Sigma, Paul R. Jones; Kappa Sigma Kappa, F. J. Holter; Lambda Chi Alpha, H. E. Fairbanks; Phi Delta Theta, Festus P. Summers; Phi Kappa Psi, Kenneth Wood; Phi Kappa Sigma, Ralph White; Phi Sigma Delta, Victor J. Lemke; Phi Sigma Kappa, Donovan H. Bond; Pi Kappa Alpha, name to be announced; Pi Lambda Phi, name to be announced; Sigma Chi, Leighton G. Watson; Sigma Nu, Russell H. Gist; Sigma Phi Epsilon, H. G. Wheat; Tau Kappa Epsilon, Martin Cobin; Theta Chi, K. C. Westover.

Sorority Supervision

Supervision of all sororities on Campus is vested in the Office of the Dean of Women.

Faculty Organizations

American Association of University Professors. The West Virginia University chapter of the American Association of University Professors now has a membership of approximately one hundred and fifty. The present officers are Albert L. Sturm, president; Donovan H. Bond, vice-president; Mavis A. Mann, secretary.

Faculty Club. The Faculty Club of the University, organized on March 10, 1921, is composed of teaching, research, and extension staffs of the University. Members of the various departments of the State of West Virginia working with the University also are eligible. The club house, located at 284 Prospect Street, serves as a residence and the center of social activities of the members. Meals are served to members and guests.

Campus Club. The Campus Club is a social organization made of women on the University staff as well as the wives of men on the staff. The club holds meetings twice each month and special meetings and functions at other times.

Cornell Club of Morgantown. The Cornell Club of Morgantown is an alumni social organization founded in 1925. Membership is open to graduates and former students of Cornell University who live in this region and to their husbands and wives. The officers are: secretary, W. H. Childs; treasurer, D. W. Parsons.

West Virginia Alumni Association of Johns Hopkins. The West Virginia Alumni Association of Johns Hopkins, founded in 1913, holds annual meetings on February 22, anniversary of the establishment of The Johns Hopkins University. Graduates and former students of Johns Hopkins are eligible for membership. Dr. A. M. Reese is president; Dr. Dorsey Brannan, vice-president.

Wisconsin Alumni Club. Graduates and former students of the University of Wisconsin are eligible to membership in this organization. It holds social meetings at which speakers from that university are heard. Dr. W. W. Armentrout is the present president of the club, organized in 1937.

DISCIPLINE

Rules and regulations which students are required to observe are few, simple, and reasonable: civil and orderly conduct; punctuality and regularity in attendance upon all required exercises; reasonable diligence in performance of the work prescribed; and abstinence from vices.

All matters of discipline are in charge of the Director of Student Affairs and the Committee on Discpline. No student may be expelled without approval of the President of the University.

Absences

Each instructor shall be responsible for attendance of students in his classes, and shall report an excessive number of absences to the faculty adviser and to the dean or director of the college or school in which the student is registered for such action as may be deemed advisable.

Students who must be absent from class for an extended period of time shall obtain permission for such absence from the dean or director of the college or school in which they are enrolled.

All women students who wish to be absent from Morgantown while the University is in session must obtain permission in advance from the office of the Dean of Women.

If a student's absences in any course exceed 12 per cent of the total number of recitations in the course, he is barred from taking the final examination unless special permission to take such examination is given him by the dean or director of the college concerned and by the instructor.

Delinquent Students

The dean or director of each college or school shall make suitable and effective provisions for handling delinquent students registered in his unit, subject to general regulations.

PROBATION AND SUSPENSION

Any student who at the end of any registration period fails to make a passing grade in courses amounting to at least half the total number of semester hours for which he is registered shall be suspended from the University except that a freshman subject to the operation of this rule at the end of one registration period in residence shall be placed on probation for the succeeding registration period.

If a student's absences in any course exceed 25 per cent of the total number of meetings, he may be considered to have withdrawn irregularly from the course and given a grade of "FIW." A grade of "FIW" must not be given unless a student has been previously reported to his adviser and to the dean of his college as being delinquent.

A student who without permission withdraws from the University or from any class for which he is registered ("FIW") shall, unless restored to probationary standing, be suspended from the University.

If a student suspended by operation of one of the above rules re-enters the University and again becomes subject to it, his suspension becomes indefinite.

Any student who fails to make a passing grade in courses amounting to at least half of the total number of semester hours for which he is registered, at the end of the second week following the date set for mid-semester reports, shall be placed on probation for the remainder of the semester.

The dean or director of each college or school shall make periodic reports of the problems arising from delinquent students to the Council of Administration.

All actions of the Committee on Scholarship and of the dean or director of the college or school that affect the standing of a student shall be reported by the dean to the Registrar.

DUTIES OF INSTRUCTORS

Instructors shall report names of delinquent students to their respective advisers at the beginning of each school month except the month in which a mid-semester examination occurs and at such other times as the occasion may arise.

In the event that a student who has not been previously reported for delinquency fails in a subject, the instructor must report to the student's dean or director the reason for the failure.

No report should be made by an instructor until after a conference with the student. If the delinquency is a minor or temporary one, the instructor may await the result of his conference before reporting. Delinquency reports should include all failures to make a passing average and unsatisfactory work on the part of those who are capable of doing a higher grade of work.

All reports shall be made on special blanks and a copy of the report should be given to the student.

DUTIES OF ADVISERS

All advisers, upon receipt of the delinquent reports shall have conferences with the students concerned and shall endeavor to make such recommendations and adjustments as may be within their power.

If delinquency is due to continued wilful neglect or to failure in one-half of the work for which the student is registered, the adviser shall report the case to the dean of his college, who may, at his discretion, place the student under the jurisdiction of the Committee on Scholarship, and thereafter the adviser shall carry out the orders and instructions imposed by the dean or the committee.

DUTIES OF THE COMMITTEE ON SCHOLARSHIP

The Committee on Scholarship shall have authority to proceed according to its best judgment in regard to delinquent students referred to it for its consideration.

All orders of the committee shall become effective when approved by the dean or director of the college or school.

In the exercise of its authority the Committee shall not suspend a student during a semester except for wilful neglect and in cases where the student's class grades are so low that further class attendance would be a waste of time. No suspension shall become effective until approved by the dean of the college.

Student Marriages

If any student under the age of twenty-one years, who has not been previously married, intends to marry within the school year, he or she must obtain the consent of the parents[1] or guardian before such marriage shall be solemnized, in accordance with provisions of section 8, chapter 48, revised Official Code of West Virginia, 1931.

In order to insure obedience to both the letter and the spirit of this statute and the policy of the University such student must, not less than one week before said marriage, show satisfactory evidence to the office of the Director of Student Affairs that consent of the parents or guardian as required by the statute has been obtained.

In the event that such student does not make such showing to the office of the Director of Student Affairs, regardless of where the marriage ceremony is performed, he or she shall, from the date of such marriage, be automatically suspended, and may only be reinstated upon showing satisfactory reason to the Council of Administration why he or she failed to comply with this regulation.

Where both parties to the marriage are students and one has not complied with the above rule, both shall be suspended as provided above.

EMPLOYMENT AND PLACEMENT SERVICE

Student Employment

Students desiring part-time work may register with Miss Cornelia Ladwig, Placement Adviser.

Until successful completion of one semester's University curricular work, freshmen should not attempt outside work unless absolutely necessary. Only the exceptional student can do so without danger to his scholastic status.

The Senior and Alumni Placement Service

The purposes of the University Placement Office are to assist those who are uncertain as to what occupation they wish to pursue and to assist in finding positions for those who have chosen a career. This is a service of the University designed to help students in selecting a vocation and to give them a greater scope of choice in their fields of interest. It does not end with placement of the student on his first job, but may be referred to at any time in the future.

The Placement Office, located on Hunt Street west of Armstrong Hall, registers candidates for positions, interviews registrants, analyzes the changing markets for graduates, aids students with regard to the techniques of the employment interview, assists alumni seeking promotion or change of position, cooperates with all individuals and agencies interested in placement, and engages in continuous research in the interest of improving these services. A meeting place is provided by this office for students seeking jobs, employers on recruiting tours, and faculty members whose comments are sought by employers. Interviews and pre-interview meetings are scheduled by this office for visiting company representatives.

A vocational library is maintained to assist any student having difficulty in deciding upon a career as well as to enable those graduating to review the kinds of opportunities available in their fields.

(The Placement Office cannot furnish credentials to commercial agencies).

The Pharmacists' Register

A pharmacists' register for the benefit of both the employer and employee has been established by the College of Pharmacy. No charge is made for services rendered.

ADMISSION, REGISTRATION, FEES

ADMISSION TO UNDERGRADUATE SCHOOLS AND COLLEGES

Methods of Entrance

Candidates for admission to the University must be at least sixteen years of age. They may be admitted either by examination or on the basis of official transcripts of record. Transcripts of secondary-school record must be sent by the principal directly to the Registrar of the University immediately after the student's graduation;[2] transcripts of college or university record must be sent by the registrar of the other institution directly to the Registrar of the University

[1]Or of the parent living, or, if the parents be living separate and apart, of the one to whom was accorded the custody of such person.

[2]In accrediting West Virginia secondary schools the University follows the classification made by the State Supervisor of High Schools.

immediately after the student has completed his work in that institution. Transcripts must be received by the Registrar of the University at least three weeks prior to the beginning of the term or semester in which the applicant is interested. The transcripts received in support of applications for admission become the property of the University and are permanently filed in the office of the Registrar.

Applicants for admission who do not have transcripts from accredited secondary schools on file in the office of the Registrar of the University or who do not have official transcripts from colleges or universities previously attended on file in the office of the Registrar of the University, may, at the discretion of the Committee on Admissions, be permitted to register provisionally. If satisfactory transcripts cannot be obtained, the registration will be cancelled and the fees paid by the applicant will be returned, in accordance with the University refund schedule. A provisional registration will not ordinarily be continued for a period longer than one week.

Conditional Admission. Students must make up all deficiencies before they can be classified as sophomores.

Entrance Unit Defined

Requirements for admission to colleges, schools, and divisions of the University are stated in terms of units.

A unit in any subject represents the amount of work that may be done in a standard high school in a year of thirty-six weeks, with five recitation periods per week, of no less than forty minutes each In courses in which laboratory work is required, from two to three periods of laboratory work are considered the equivalent of one period of recitation according to the amount of outside preparation required in connection with such work.

Graduates of accredited schools may receive credit for work certified, with the understanding, however, that no student may enter any college, school, or division of the University until he has credit for 15 units, *i.e.*, the work of the standard four-year college preparatory course.

Prescribed and Elective Units

A. Fifteen units of high-school work are required for admission to the University.
B. The following groups are required:
   (1) Four units in English[3]
   (2) Three units in a second subject
   (3) Two units in each of two other subjects
C. The work in "A" must include the following:

For admission to all colleges and schools, 1 unit in elementary algebra.

For admission to the College of Agriculture, in the case of students who elect agriculture or forestry as their major field of study—1 unit in elementary algebra and 1 unit in plane geometry.

For admission to Agricultural Engineering—1 unit in elementary algebra, ½ unit in intermediate algebra, 1 unit in plane geometry, and ½ unit in solid geometry.[4]

For admission to the College of Arts and Sciences, in the case of students who intend to elect chemistry, geology, mathematics, physics, predental or premedical studies as their major field of study—1 unit of elementary algebra and 1 unit in plane geometry.

[3]A student may enter the University with 3 units in English and satisfy admission requirements by making a satisfactory grade on the English Placement Test, or by successfully completing English 0, English Composition.

[4]In the College of Engineering, the School of Mines, and the Department of Agricultural Engineering, a student may enter with only 3 units in English if he also presents for entrance 2 units in a foreign language.

For admission to the College of Engineering or the School of Mines—1½ units in algebra, 1 unit in plane geometry, and ½ unit in solid geometry.[4]

For admission to the College of Pharmacy—1 unit in elementary algebra, 1 unit in history, and 1 unit in science.

D. Work in the following subjects not to exceed the number of units placed after each subject will be accepted:

Subject	*Units*	*Subject*	*Units*
Journalism	1	Science[7]	
English	4	Physics	1
Speech	1	Chemistry	1
Foreign languages[5]		Biology[8]	1
Latin	4	Botany[8]	1
Greek	3	Zoology[8]	1
French	3	Geology	1
German	3	General science	1
Italian	3	Physical geography	1
Spanish	3	Physiology	½
Education	2	Commercial geography	½
Mathematics, General		Commercial law	½
Algebra	2	Vocational subjects (not to exceed 4 units)	
Plane geometry	1	Agriculture	4
Solid geometry	½	Household arts	3
Trigonometry	½	Manual training	3
History and Economics[6]		Bookkeeping or bookkeeping and commercial arithmetic	2
History	3	Commercial arithmetic (alone)	½
Civics	1	Shorthand	1
Economics	1	Typing	1
Sociology	1	Aeronautics	1
Drawing		Art	1
Free-hand drawing	1	Hygiene and sanitation	1
Mechanical drawing	1	Physical education	1
Music (applied)	2		

Special Students

Persons who do not desire to become candidates for a degree may, by permission of the Committee on Admissions and the dean of the college which they desire to enter, be admitted as special students, subject to the following provisions:

1. Special students must as a rule be twenty-one years of age.
2. Special students must satisfy at least 9 units of the requirements for admission, including 2 units of English.

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[4]Students entering the College of Engineering or the School of Mines may be admitted conditionally without solid geometry provided they are prepared to take Mathematics 3 as indicated by their grade in the mathematics placement test. The deficiency in solid geometry must be made up during the first year.

[5]One unit of Latin will be accepted. No less than 2 units of either French, German, Greek, Italian, or Spanish will be accepted unless sufficient additional work in that language is taken in college to complete a minimum of 2 units.

[6]A group of 3 units may be formed by combining 2 units of history with 1 unit of civics, economics, or sociology, or with ½ unit each of any two of these subjects.

[7]A group of 2 or 3 units in science may be made by combining 1 unit each of any two or three of the following: physics, chemistry, botany, biology, zoology, geology.

[8]If a student presents either botany or zoology for entrance he may have credit for no more than ½ unit of biology; if he presents both botany and zoology, no credit in biology will be allowed.

3. Every application for admission as a special student must be presented in writing to the Committee on Admissions and must set forth fully the applicant's reason, together with a detailed statement of studies he desires to pursue.

4. Special students are subject in all respects to the usual rules relating to registration and scholarship. They may be assigned to classes for which they apply, it being understood, however, that admission to any class rests entirely with the instructor in charge, and further, that admission to any class when so granted does not necessarily imply credit for prerequisites.

5. In the College of Law, students with less than the academic credit required of candidates for the Degree of Bachelor of Laws will be admitted as special students only if:

(a) they have credit for no less than two years of work of collegiate grade in an institution of approved standing;

(b) they are at least twenty-three years of age;

(c) there is good reason, acceptable to the Scholarship Committee, for thinking that their experience and training have specially equipped them to engage successfully in the study of law, despite the lack of the required college credit; and

(d) the number of such special students admitted each year shall not exceed ten per cent of the average number of students admitted by the College of Law as beginning regular law students during the two preceding years.

Special Requirements for Admission

THE COLLEGE OF EDUCATION

Requirements for admission to the College of Education shall be the completion of 58 semester hours of approved college work, with an average of at least 2 grade points per credit hour. Candidates for a Bachelor's Degree in Education register for their first two years of work in the College of Arts and Sciences. Freshman and sophomores who expect to enter the College of Education will indicate their intention when they register. Their studies will be directed by advisers for pre-education students. Such students should so order their courses of study as to satisfy requirements for junior standing and should be fulfilling requirements for the certification of teachers.

THE SCHOOL OF JOURNALISM

A candidate seeking admission to the School of Journalism with the view of obtaining a degree must have satisfied requirements for matriculation in one of the University undergraduate colleges and must have earned at least 58 semester hours of college credit. A student deficient in physical education service program and military science will be required to take these subjects as soon as possible. During his freshman and sophomore years he should have completed satisfactorily all or most courses specified for prejournalism majors. A prejournalism student not maintaining at least a "C" average during his first two years in all college subjects is strongly advised not to enroll in the professional school.

THE COLLEGE OF LAW

All candidates for the Degree of Bachelor of Laws must present three-fourths of the number of hours required for a baccalaureate degree from an institution of approved standing of which hours not more than 10 per cent may be in non-theory courses. All work taken after June 1, 1947, must carry an over-all average of at least 2.3 grade points, or the equivalent. In computing such over-all average, 2 grade points will be deducted for each hour of "F." Work taken before June 1, 1947,

will be acceptable provided it carries an average grade of "C," or one grade point per credit hour, or the equivalent. Non-theory courses in military science and physical education will not be counted either in computing hours of credit or grade points.

Any degree from an institution of approved standing will be regarded as satisfying the requirements for admission provided that, in the opinion of the Scholarship Committee of the College of Law, the degree satisfies the entrance requirements of the Association of American Law Schools.

Every applicant for admission must request the proper registrars to send directly to the secretary of the College of Law, before registration, a complete transcript of his record in each institution which he has attended after completion of his secondary education. Evaluation of all credentials is made by the Registrar of the University.

No applicant will be admitted who previously shall have attended another law school and who shall be ineligible to return to that school in good standing.

THE SCHOOL OF MEDICINE

In addition to high-school requirements, the applicant for admission to the School of Medicine must have credit for at least three years of work in a college of recognized standing. This must include 90 hours of credit exclusive of military science and physical education.

The 90 hours of credit include the following subjects and hours: English composition, 6 hours; physics, 8 hours; biological sciences, 12 hours (mainly zoology and comparative anatomy); chemistry, 20 hours (including 6 hours organic); psychology, 3 hours; a modern foreign language, 12 hours (German or French preferred); Latin, 6 hours recommended if no high-school Latin has been taken.

Selection of Students. The number of students the Medical School can accommodate is strictly limited. Applications for admission are considered by the Committee on Admissions of the School of Medicine, which selects those with the highest qualifications of scholarship and personal fitness. An important factor is the score of the applicant in the Medical College Admissions Test sponsored by the Association of American Medical Colleges and given at suitable times. Students should consult premedical advisers about this test or should write to Educational Testing Service, P. O. 592, Princeton, New Jersey. Applications for admission may be made as much as a year in advance of the opening date. Only *bona fide* residents of West Virginia may be considered for admission.

Further details concerning entrance requirements to the School of Medicine may be obtained by writing to the Dean of the School of Medicine or to the Registrar of the University. A full statement concerning suggested premedical courses is to be found in Part II of this *Catalog* (pages 124-127).

THE SCHOOL OF MUSIC

Students who meet University entrance requirements are admitted to the School of Music either by examination or on certificate from an accredited secondary school. Students may enter the Applied-Music courses in the School of Music at any time during the semester without credit. An examination will be given them to determine what work they are prepared to do. It is to their advantage, however, to enter at the beginning of the semester. Students majoring in Music will be expected to have acquired previously a background in the fundamentals of music and a fair ability in music reading. All students will be examined at least twice a year, in January and in May, to determine the progress made.

In the School of Music special provision may be made to permit talented individuals to take work in Applied Music without credit.

ADMISSION TO THE GRADUATE SCHOOL

Applicants holding Bachelors' degrees from West Virginia University or from other accredited institutions may be admitted to the Graduate School. Applications for admission to the Graduate School must be filed with the Registrar of the University who will forward the applications to the Dean of the Graduate School. The applicant must request the registrar of the college or university previously attended to send an official transcript directly to the Registrar of the University. The applications and transcript should be received by the Registrar at least one month in advance of registration days. Application forms may be obtained from the Registrar of the University.

Admission to the Graduate School does not constitute acceptance by the major department. It merely grants permission to seek admission to that department.

The Dean of the Graduate School and the head of the Department in which the student desires to do his major work will advise him concerning departmental prerequisites for candidacy for an advanced degree and major and minor advanced degree requirements.

Undergraduate deficiencies, generally unsatisfactory background, or lack of adequate facilities in a given department may prevent acceptance by the department. In such instances, the student must either seek acceptance by another department or register as a "special" graduate student. A "special" graduate student is not a candidate for an advanced degree.

Eligible students who wish to further their education without reference to higher degrees may be admitted to the Graduate School and may elect courses for which they can satisfy prerequisites.

Graduate Degrees

Graduate degrees offered by departments in the University which have been approved for graduate work are as follows:

Master of Arts (A.M.)
Master of Music (Mus.M.)
Master of Science (M.S.)
Master of Science in Chemical Engineering (M.S.Ch.E.)
Master of Science in Electrical Engineering (M.S.E.E.)
Master of Science Civil Engineering (M.S.C.E.)
Master of Science in Mechanical Engineering (M.S.M.E.)
Master of Science in Engineering of Mines (M.S.E.M.)
Master of Science (Home Economics Education) M.S. (H.E.Ed.)
Master of Science (Biochemistry)
Master of Social Work
Doctor of Philosophy (Ph.D.)

Professional Degrees

The following professional degrees are conferred upon graduates of the College of Engineering and the School of Mines of West Virginia University on the basis of practical experience and study in absentia, the presentation of a thesis, and an oral final examination.

Engineer of Mines (E.M.) Chemical Engineer (Ch.E.)
Mechanical Engineer (M.E.) Civil Engineer (C.E.)
Electrical Engineer (E.E.)

THE COLLEGE OF LAW

Applicants for admission to advanced standing must satisfy ordinary requirements for admission to the first-year class, must have successfully pursued the study of law in a school which is a member of the Association of American Law

Schools, and must have received credit for courses equivalent to those required of students in the College of Law. The extent of credit allowed for work done elsewhere is determined by the Scholarship Committee. A student will not be allowed credit for work carried in another law school, however, unless the student receives thereon a grade of "C" or its equivalent.

Any applicant for advanced standing may also, at the discretion of the faculty, be required to pass examinations in any or all courses presented for credit.

THE SCHOOL OF MUSIC

Advanced standing in applied music is given only by examination. Persons desiring such standing should enroll at the beginning of the semester, and after they have become thoroughly familiar with the requirements for each semester's work, they may apply to the Registrar of the University for a special examination in which they may prove their ability to meet the requirements as outlined.

THE COLLEGE OF PHARMACY

No student shall be permitted to complete the course in Pharmacy in less than three collegiate years in a college of pharmacy, regardless of the amount of credit offered for advanced standing. This is in accordance with the by-laws of the American Association of Colleges of Pharmacy.

VETERANS OF WORLD WAR II

The University recognizes that men and women from the Armed Forces who enter college require individual and personalized guidance in order to facilitate their entrance into the University and to aid their adjustment to University life. The Veterans' Coordinator is available for consultation and help in the solution of personal problems which may arise in the transition to civilian student life.

Information regarding educational opportunities made possible at the University through provisions of the Service Men's Readjustment Act of 1944 (G.I. Bill of Rights) and the Vocational Rehabilitation Program of the Veterans Administration (Public Law 16) may be obtained from the Veterans Coordinator, J. Meredith Pauley, by personal conference or by mail.

Veterans of World War II may be admitted to the University by the Committee on Admissions by any of the following methods:

1. Graduation from an accredited preparatory school.
2. Presentation of 15 units of high-school work without graduation.
3. Advanced standing from other accredited colleges or universities.
4. Evidence of sufficient maturity and ability to do college work furnished by the use of United States Armed Forces Institute tests or American Council on Education tests. Training of any kind received in the service will be considered and, if possible, evaluated for entrance or college credit.
5. Veterans who present at least 9 units of entrance credit may be admitted as special students.

An honorably discharged veteran of World War II who has successfully completed basic training in the Armed Forces of the United States shall be excused from any additional work in Basic Military and in the Physical Education Service Program upon submission of due proof thereof to the Registrar of the University.

REGISTRATION

Persons who are not registered as students in the University and who are not members of its administrative or teaching staffs shall not be admitted to regular attendance in University classes.

All students are expected to register on days set apart for registration at the beginning of each semester or term of the University. All freshmen are required

to take intelligence, placement, medical, and physical tests.

Immediately after completion of their registration, all students are expected to pay their fees at the office of the Comptroller in the Administration Building.

Visitors

Students who are registered in the University may be permitted to attend classes as visitors, provided they shall have obtained the written permission of their advisers and of the instructors in classes they desire to visit. Members of the administrative or teaching staffs, or other regular employees of the University, may be permitted to attend classes as visitors, provided they shall have obtained the written permission of the heads of their departments and of the instructors in the classes which they desire to visit.

No record is kept of the work and attendance of persons admitted to classes as visitors and no credit is given for their work in such classes.

Persons eligible to attend classes in the University as visitors may obtain the proper blanks from the Registrar.

Late Registration

No student will be permitted to register in the University after the eighteenth day of a semester or the ninth day of either term of the Summer Session, without the special permission of the dean or director of the college or the school which he proposes to enter. No student registering late will be permitted to enroll for more hours of work than the number of weeks in actual attendance without the permission of the Committee on Scholarship of the college or school concerned.

Withdrawal from the University

A student who desires to withdraw from the University must obtain a withdrawal card from the office of the Registrar 103 Ad. Withdrawal procedure will be explained to him when he obtains this card.

Students who withdraw from the University without permission will receive at the end of the semester a grade of "FIW" (failure because of irregular withdrawal) in each of the subjects for which they are registered and will be indefinitely suspended from the University.

Students who desire to drop part of their work may withdraw from classes in which they are enrolled with a grade of "W" at any time prior to the end of the the second week following the date set for mid-semester reports. Withdrawal permits must be approved by the adviser and filed with the Registrar. If such withdrawal reduces the student's hours below the required minimum, the permit must be approved by the Scholarship Committee. Withdrawals after the above date will be permitted only in exceptional cases and must be approved by the Scholarship Committee of the college or school in which the student is registered.

Re-entry after Withdrawal

Students required to withdraw from one college or school of the University because of failure in their work and permitted to transfer to another unit of the University may not again register in the college or school in which they were originally registered without the consent of the Scholarship Committee of that college or school.

College Credit Defined

A college credit or semester hour represents the amount of work done in one semester in one recitation hour with two preparation hours a week. From two to

three hours of laboratory work are considered equivalent to one hour of recitation, according to the amount of outside work assigned in connection with the laboratory hours.

Numbering of Courses

Courses offered in the various colleges and schools of the University are numbered so as to indicate the rank (freshman, sophomore, junior, senior or graduate) of students for whom they are intended. See page 66.

Adviser

The college or school in which a student is enrolled shall have jurisdiction over the course of study of that student. Each student upon entering the University is assigned to an adviser, whose duty it is to assist the student in his registration, to keep a record of his work, and to report his registration and standing to the Registrar as required. The adviser approves the student's program of studies, sees that all prescribed work is taken in proper sequence, approves the selection of elective courses, and assists the student generally in planning his course of study so that he may proceed systematically and without conflicts. Changes in registration must always have the approval of the adviser. The student will look to his adviser for guidance in all matters pertaining to his work.

Maximum and Minimum Work

The maximum and minimum number of hours per semester as well as the maximum number of hours per year for which a student may register during the regular academic year of the University are as follows:

	Minimum Hours per Semester	*Maximum Hours per Semester*	*Year*
Agriculture	14	20	..
Arts and Sciences	12	18	..
Education	..	18	35
Engineering and Mechanic Arts	14	20	..
Forestry	14	20	..
Home Economics	14	18	34
Journalism	14	18	36
Law	13	16	..
Medicine	17	20	..
Mines	14	20	..
Music	14	20	..
Pharmacy	14	20	..
Physical Education and Athletics	14	20	..

Work of the Summer Session is equivalent in character to that of the regular year. One hour's credit per week is a normal load for either term; but in order to facilitate scheduling of courses, undergraduate students may carry 7 hours if the periods are seventy-five minutes in length.

A student desiring to do irregular work, more or less than the prescribed number of hours in any college, must obtain permission from the Committee on Scholarship in his college or school. This permission is not valid until it has been reported to the Registrar for record.

Substitution for Required Courses

A student who desires to substitute another course for any course prescribed in his curriculum or required for the degree toward which he is working, must

obtain permission for such substitution from the Committee on Scholarship in his college or school, but there can be no substitution from group to group.

Return of Books to the Library

Students must present a signed statement from the Librarian that they have returned all books and paid all library fines incurred, before they withdraw. No student will be allowed to graduate before paying all fines and returning all Library books.

FEES AND EXPENSES

(Subject to change without notice)

Fees

All fees are due and payable at the Comptroller's office on the day of registration.[9] Students registering pay the fees shown in table on page 57.

Remission of Fees

No tuition or fees, except those payable to State Special Funds or those charged to Special Services, shall be charged or collected by the University from any student registered in the Graduate School while such student is employed by the University on a regular appointment. Any such student who has held a regular University appointment for the second semester shall also be entitled to exemption from these fees for the Summer Session immediately following his term of appointment.

[9]Students who have not paid their fees before the close of office hours of the second Saturday following the opening of a semester or a summer term, shall be dropped from the rolls of the University, and the Registrar shall notify their instructors that their class cards are to be withdrawn.

SEMESTER FEES IN THE COLLEGES AND SCHOOLS
See Footnotes 10, 11, 12.

COLLEGE OR SCHOOL	REGULAR YEAR				SUMMER SESSION				REMARKS
	Full Time		Part Time		Full Time		Part Time		
	Resident	Non-resident	Resident	Non-resident	Resident	Non-resident	Resident	Non-resident	
Agri., For., H. Ec.	$ 42.00*	$117.00*	$ 3.00 per credit hour	$ 8.00 per credit hour	$ 25.75 or $ 31.50†	$ 35.75 or $ 41.50†	$ 5.00 per credit hour	$ 7.00 per credit hour	*Includes Contingent fee ($30); Student Activity fee ($7); Health Service fee ($3.00); and Mountainlair fee ($2.00). †Either term, lower figure; both terms, higher figure.
Arts and Sciences		Fees in this column include out-of state tuition.							
Education									
Engineering									
Journalism									
Mines									
Physical Education and Athletics									
Music	$ 77.00*	$152.00*							*See above
Pharmacy (See "Special Fees in Pharmacy")	$ 67.00*	$142.00*	$ 4.00 per credit hour	$ 12.50 per credit hour	No instruction during the summer				*See above
Law	$ 67.00*	$192.00*	$ 4.00 per credit hour	$ 12.50 per credit hour					*See above
Medical Technician (Jr. & Sr. Years)	$ 67.00*	$142.00*							
Medicine	$129.00*	$204.00*	$ 8.00 per credit hour	$ 12.50 per credit hour					*See above

10A full-time student is one who is registered for 10 or more semester hours of work during each semester of the regular academic year, or 4 or more semester hours of work during each term of the Summer Session. A full-time student during the regular academic year receives a student activity book which entitles him to admission to all outdoor athletic events and, by the payment of an additional nominal amount at each event, entitles him to admission to all indoor athletic events held in the Field House. A full-time student during the regular academic year, or during the Summer Session is entitled to free medical consultation and advice from the University physician. A moderate charge is made for room calls, X-rays, special laboratory tests, drugs furnished by the University Pharmacy, minor operations, treatment of fractures and dislocations, and intravenous treatment.

11No person shall be considered eligible to register in the University as a resident student who has not been domiciled in the State of West Virginia for at least twelve consecutive months next preceding his registration. No nonresident student may establish domicile in this State, entitling him to reductions or exemptions of tuition, merely by his attendance at the University. A minor student whose parents have become domiciled in West Virginia after the student's original registration in the University, will be deemed to have the domicile of his parents and be entitled to pay resident fees thereafter. Moreover, any student who has originally paid nonresident fees may become entitled to pay resident fees, if after an interim of nonattendance or otherwise he has established a valid legal domicile in this State at least twelve months prior to his registration in the University. In any event, the appointment of a guardian for a minor student temporarily resident in West Virginia, other than the designation of a natural guardian, shall not in and of itself operate to establish a West Virginia domicile for such student.

12A part-time student is one who is registered for fewer than 10 semester hours per semester during the regular academic year; or for fewer than 4 semester hours per term during the Summer Session.

Special Fees

Late-registration fee (nonrefundable)[13]	$ 2.00
Graduation fee[14]	10.00
Professional Engineering degree (including $10 graduation fee)	25.00
Student's record fee[15]	1.00
Certificate in Agriculture	1.00
Associate in Arts Degree	2.00
Special extra fee for flight training:	
A.E. 171	100.00
A.E. 172	100.00
A.E. 173	100.00
A.E. 174	180.00
Change in registration fee (after 8th day)	1.00
Fee for examination for entrance credit, per unit	1.00
Fee for examination for advanced standing	3.00
Fee for General Educational Development tests (high-school level)	15.00
Social work certificate	2.00
Fee for reinstatement of students dropped from the rolls	3.00
Fee* for examination of candidates for graduate degrees	1.00
Student locker fee (men)	2.50
Student locker fee (women)	2.00
Diploma replacement fee	5.00

Fee for Extension Work

A fee of $8 per semester hour is charged for each extension course offered for undergraduate credit. A fee of $10 per semester hour is charged for each extension course offered for graduate credit.

Special Fees in Medicine and Pharmacy

Students in colleges and schools other than the College of Pharmacy and the School of Medicine who register for courses in the College of Pharmacy or the School of Medicine shall be required to pay a fee of $4 per credit hour for such courses in addition to the fees charged in the colleges or schools in which they are registered.

Regularly enrolled students in the College of Pharmacy are given the privilege of enrolling without additional fees in required Pharmacy courses offered in the School of Medicine.

Regularly enrolled premedical students in the College of Arts and Sciences are given the privilege of registering for the following courses in the College of Pharmacy without additional charge: Pharmacy 2, Pharmacy 3, Pharmacy 9, Pharmacy 106, and Pharmacy 107.

School of Music Fees

1. *Students Registering for a Degree in the School of Music.*
   Resident students, $77 per semester. Nonresident students, $152 per semester.

[13]Charged when students register after registration dates announced in the University Calendar, Part IV.

[14]The graduation fee is payable by all students at the beginning of the semester or term in which they expect to receive their degrees.

[15]One transcript of a student's record is furnished by the Registrar without charge. This fee is charged for furnishing an additional transcript.

*For graduate students not otherwise enrolled at time of final examination

2. *Special or Part-time Students Registering in the School of Music.*

(a) Class courses—Special or part-time students registered in the School of Music for class courses in music shall pay $5 per credit-hour for these courses.

(b) Applied Music—Special or part-time students registered in the School of Music for courses in applied music shall pay tuition fees as follows:

	LESSONS PER WEEK	
	One	*Two*
Voice	$35	$55
Piano	35	55
Pipe-Organ	35	55
Band and orchestra instruments	35	55
Instrument Classes	$5	per semester
Ensemble:		
1. Accompanying	$5	per semester
2. Chamber music	$5	per semester

(c) Special Work in Another College or School—Special or part-time students registered in the School of Music who take special work in another college or school of the University shall pay music fees plus the regular rate per credit-hour for the work they are taking in another college or school.

3. *Students Registered in Other Schools and Colleges.*

(a) Class Courses—Students registered in other schools and colleges of the University may enroll for class courses in the School of Music without paying aditional fees.

(b) Applied Music—Students in other schools and colleges of the University who enroll for one or more courses in applied music shall pay the fees required in the school or college in which they are registered plus music fees as follows: for courses in voice, piano, pipe-organ or band and orchestra instruments, one lesson per week $20; two lessons $35.

4. *Piano and Pipe-organ Practice.*

(a) Piano for practice—One hour a day, $6 per semester; two hours, $10; three hours, $14; four hours, $18.

(b) Pipe-organ practice—One hour a day, $10 per semester.

(c) Band and orchestra instruments—Rental fee $2.50 per semester.

Deposits

The deposits required are as follows: breakage deposit in chemistry, $7 to $12; breakage deposit for students enrolled in medical technology course and in the School of Medicine, $10; for students enrolled in other colleges and schools of the University electing courses in medical technology or medicine, $5 for one laboratory course and $10 for more than one course; military science deposit, $10; breakage deposit in pharmacy, $10.

Refunding of Fees

A student who withdraws regularly[16] from the University may arrange for a refund of fees by submitting to the Comptroller approval by the Registrar of the refund. Semester fees will be returned in accordance with the following schedule:

	Amount of Refund
During first and second weeks	All fees less $2.50
During the third and fourth weeks	80% of fees
During the fifth and sixth weeks	60% of fees
During the seventh and eighth weeks	40% of fees
Beginning the ninth week	No refunds allowed

[16]To withdraw regularly a student must apply to the Registrar for permission. The withdrawal permit must be approved by the student's adviser and the dean of the college and filed in the Registrar's office.

COST OF AN ACADEMIC YEAR'S WORK

A student's textbooks will cost approximately $50 a year, and his registration fees $84 to $258 if he is a resident; or $234 to $408 if a nonresident. Students in engineering will use drawing instruments costing from $40 to $50. The laboratory breakage deposit required ranges from $7 to $12, a part of which is usually returned at the end of the year. In military and air science a $10 deposit is required to cover military equipment in the custody of the student, practically all of which is returned to the student when he accounts for his equipment. Board and room may be obtained at from approximately $459 to $549 a year. A student's laundry will cost from $25 to $35 a year. Traveling expenses, clothing, and other miscellaneous items will depend largely upon the tastes and habits of the individual student. In general, however, it may be said that the legitimate cost of a 9-month term of residence at the University ranges from $700 to $1,000 a year.

REQUIREMENTS FOR DEGREES

Candidates for degrees are eligible for graduation upon completion of the requirements, in the college or school in which they are registered, which were in effect at the time of their first registration in that college or school, provided they apply for graduation within a period of seven years from the time of their first registration. Students who fail to complete the requirements for graduation within seven years from their first registration in the college or school in which they are candidates for degrees, shall satisfy the requirements in effect at the time they apply for graduation.

All University degrees are conferred by the Board of Governors upon recommendation of the faculties of the various colleges and schools. Degrees are granted at the close of the semester or Summer Session term in which the students complete their work.

Candidates for degrees to be conferred at the close of the second semester must be present in person to receive their degree unless excused by the deans or directors of their colleges or schools.

Baccalaureate Degrees

CREDITS AND GRADE POINTS REQUIRED

Less than 6 hours in an ancient or modern language will not be counted toward any University degree, diploma, or certificate unless work in the same language has been offered for entrance.

Six hours of English composition and rhetoric (English 1 and 2) are required of all candidates for the bachelor's degree in all colleges and schools of the University.

Eight hours of basic military or air science and tactics are required of all freshmen and sophomore men not specifically exempt.[17]

Two hours of physical education for men (P.E. 1 and 2), to be taken during the first year in residence, and four hours of physical education for women (P.E. 1-16, 57, 101-104), to be taken during the first and second years in residence, are required for graduation, except in the case of students entering with advanced standing amounting to 58 semester hours or more.

Each undergraduate who begins University work after June 1, 1952, must pass a proficiency examination in English, after the beginning of his junior year in order to qualify for graduation. He shall take the examination during the first semester of his junior year, and if not declared proficient, shall repeat the examination as many times as necessary. The examination shall be administered by the English Proficiency Board.

[17]See pages 16-17.

Each baccalaureate degree is conditioned upon the completion of a specified number of semester hours of credit. For a tabular statement of the number of credit hours required for each degree, see the last column on page 61 under the caption "Classification of Students."

All divisions of the University require minimum standards of scholastic quality. Grade points are computed only on grades earned at West Virginia University (including Potomac State School of West Virginia University). To be eligible for graduation, a student must have an average of "C" or an average of two grade points on all work for which he received grades (except "W" and "WP"). The College of Education, in addition to the general average of two grade points per credit hour in all subjects, requires an average of two grade points per hour of credit in Education and in each teaching field.

It is the student's responsibility to keep informed on his grade point standing. This information may be obtained at any time from the dean or director of the college, school or division in which the student is registered.

GRADUATION WITH HONORS

Effective June 1, 1949, the University established the practice of awarding "Honors" and "High Honors" to qualified students who are candidates for their initial baccalaureate degrees. (Candidates from the College of Law are excluded.) The following regulations govern these awards:

1. The computation of the average shall begin with the student's penultimate term or semester and continue in reverse chronological order until at least 54 semester hours have been counted. If, in order to total the required number of hours, it is necessary to include any part of a semester or term the work of the whole semester shall be included.
2. No graduate shall be eligible for honors unless he shall have completed at least half of the semester hours required for his degree in West Virginia University.
3. The senior year must be at the University.
4. No graduate shall be eligible for honors if his grade point average for his final semester or term is less than 3.0.
5. Subject to the above conditions, all candidates for a baccalaureate degree whose average, as shown by the portion of the work used, is 3.6 or above, shall be graduated with "High Honors." All those whose average is less than 3.6 but 3.3, or above, shall be graduated with "Honors."
6. Fitting recognition of graduation with honors shall be made on the candidate's diploma and on the commencement program.

REQUIREMENTS AS TO RESIDENCE

Students who come to the University from other colleges or universities are advised to make the transfer not later than the beginning of their third year and in no case will a student who matriculates in the University later than October 1 in any year be permitted to receive a degree at the next commencement.

In special cases students who desire to leave the University at the close of their third year to enter another institution with the purpose of taking a combined course leading to two degrees or of preparing for graduate study may, upon application beforehand to the Committee on Scholarship of the college or school in which they are registered, be permitted to do the work of the fourth year, or a part thereof, at such other institution and to receive the bachelor's degree from the University upon the presentation of the proper credits.

Except in the College of Law, no student will be granted a bachelor's degree by the University who has not done either a total of 90 hours or the last 30 hours of his work in actual residence at the University.

No student may receive the Degree of Bachelor of Laws without at least three semesters in residence at the College of Law and the successful completion of courses aggregating at least one-half of the total number of hours required for graduation.

CLASSIFICATION OF STUDENTS

The following table shows the number of semester hours required for classification as second-year, third-year, and fourth-year students and for graduation, according to the curricula in the several colleges, schools, and divisions. First-year students must satisfy the requirements for admission as set forth on pages 47 to 50, inclusive.

COLLEGE AND DEGREE	HOURS REQUIRED TO CLASSIFY AS Second-Year Student	Third-Year Student	Fourth-Year Student	Required for Degree
AGRICULTURE, FORESTRY, AND HOME ECONOMICS				
B.S. (Bachelor of Science)	26	64	100	144
B.S. in Agriculture (B.S. Agr.)	26	64	100	144
B.S. in Forestry (B.S.F.)	30	70	110	150
B.S. in Home Economics (B.S.H.E.)	25	58	92	128
AGRICULTURE & ENGINEERING				
B.S. in Agr'l Engg (B.S.Agr.E.)	30	72	112	154
ARTS AND SCIENCES				
Associate in Arts (A.A.)	25	..	..	64
Bachelor of Arts (A.B.)				
Regular	25	58	92	128
Premedical	32	58	96	128
Combined (Medicine)[18]	32	58	96	132
Combined (Law)[19]	25	58	96	124
Bachelor of Science (B.S.)				
Business Administration	32	58	99	132
Geology	32	58	99	132
Chemistry	34	58	103	136
Combined (Medicine)[20]	32	58	96	132
Social Work	25	58	92	128
EDUCATION[21]				
B.S. in Education (B.S.Ed.)	..	58	92	128
ENGINEERING[22]				
Bachelor of Science	27	60	94	133
B.S. in Aero. Eng'g (B.S.A.E.)	30	72	112	154
B.S. in Chem. Eng'g (B.S.Ch.E.)	30	72	112	154
B.S. in Civil Eng'g (B.S.C.E.)	30	72	112	154
B.S. in Elec. Eng'g (B.S.E.E.)	30	72	112	154
B.S. in Mech. Eng'g (B.S.M.E.)	30	72	112	154
JOURNALISM				
B.S. in Journalism (B.S.J.)	..	58	92	128
LAW				
Bachelor of Laws (LL.B.)	21	50	..	81

[18]Fourth year in School of Medicine.

[19]Fourth year in College of Law.

[20]Third and fourth years in School of Medicine.

[21]For the Degree of Bachelor of Science in Education, at least 10 hours of the residence work must be in Education.

[22]Students matriculating with 58 or more hours of credit may graduate with 148 hours, since physical education is not required of these students.

COLLEGE AND DEGREE	HOURS REQUIRED TO CLASSIFY AS Second-Year Student	Third-Year Student	Fourth-Year Student	Required for Degree
MEDICINE				
Bachelor of Science (B.S.)				
Medical Technician	25	58	100	135
MINES				
B.S. in Eng'g of Mines (B.S.E.M.)	30	72	112	154
MUSIC				
Bachelor of Music (B.Mus.)	30	64	102	136
PHARMACY				
B.S. in Pharmacy (B.S.Phar.)				
Retail Pharmacy	30	70	108	142
Industrial Pharmacy	30	70	108	144
PHYSICAL EDUCATION AND ATHLETICS				
Bachelor of Science in Physical Education (B.S.P.E.)	28	58	92	128
Bachelor of Science in Recreation (B.S.Rec.)	28	58	94	130

WORK DONE OUT OF RESIDENCE

It is the policy of the University to discourage the taking of regular residence courses in absentia. In the case of courses begun at the University and not completed because of illness or for other acceptable reasons, however, permission to complete the work in absentia under the direction of the regular University instructors giving the courses may be granted by the Committee on Scholarship; but in such case credit should be given only upon a report of the grade of no less than "C" on final examination.

This regulation does not apply to University extension courses.

CREDIT IN CORRESPONDENCE WORK

Credit up to a maximum of 30 semester hours for work completed by correspondence in non-laboratory courses will be accepted by the University when such work is given by accredited colleges or universities that accept this work for credit toward their own degrees and whose residence work is accepted by West Virginia University. In compliance with an order of the State Board of Education, however, credits obtained in correspondence courses will not be considered in certifying students for teachers' certificates.

EXAMINATIONS AND REPORTS

COURSES

As a rule courses extend through one semester only.[23]

[23]In the College of Law all courses extend either the entire year or through one semester. No credit will be given for less than an entire course except by special order of the Committee on Scholarship. Grades given at the end of the first semester in courses extending throughout the year are merely indicative of the quality of work done by the student to that point and do not give credit for the part of the course so far pursued. Such first-semester grades may be considered in determining the final grade.

Examinations

MID-SEMESTER AND FINAL EXAMINATIONS

In practically all courses offered in the University, the student receives both a preliminary or mid-semester grade and a final grade. The mid-semester standing of a student is based on the daily recitation grades and a special test given during one or more regular recitation periods. Mid-semester grades are not entered on the Registrar's records. The final grade is based on the class standing for the entire semester and on a written final examination[24] to which a special period of two or three hours is devoted, except that the manner of determining the final grade of seniors and graduate students provisionally approved for graduation at the end of the semester or term is left with the head of the department. Any student not satisfied with his grade, however, has the right to take the examination with his class if he so desires.

EXAMINATION PERIODS

Mid-semester examinations are held during the week immediately preceding the day of the mid-semester reports as set forth in the University Calendar. Final examinations are held during the last week of each semester of the academic year, and during the last two days of each term of the Summer Session.

ABSENCE FROM EXAMINATION

Students are required to take all regular examinations. If a student attends a course throughout the semester and is absent from examination without permission, the instructor shall count the examination as zero and report the final grade as "F." If, in the opinion of the instructor, absence of the student was for satisfactory reason, the fact will be recorded on the student's class ticket, the grade "I" will be returned, and the student may, upon application to the instructor, take the examination at a later date.

INCOMPLETES AND FAILURES

If the final grade of a student in any course is "F," the student must take the course again if he desires to receive credit for it. The grade of "I" is given when an instructor believes that the course work is unavoidably incomplete or that a supplementary examination is justifiable. The grade of "I" can be removed by examination or completion of the work of the course. A grade of "I," not removed within the following semester or the next semester in which the student is in residence, becomes a failure unless special permission is granted by the appropriate Scholarship Committee to postpone removal.

Reports

Mid-semester grades are reported to students' advisers and to deans or directors but are not recorded in the office of the Registrar.

Final grades are reported by instructors directly to the Registrar's office. Final grades must be in the hands of the Registrar within 48 hours after the closing hour of the examination. This rule also applies to the final grades of all students registered in other colleges or schools of the University who are enrolled in law courses.

The final standing of all seniors provisionally approved for graduation shall be reported by their instructors to the deans or directors of their colleges or schools, and the final standing of all graduate students provisionally approved for graduation shall be reported to the Dean of the Graduate School not later than the last day of recitation of the second semester. For this purpose special report cards are supplied by the Registrar.

[24]See 12 per cent rule under "Absences" on page 45.

A report of each student's work is made at the close of the semester or Summer Session either to the student himself or to his parents or guardian.

Scholastic Standing and Grade Points

GRADING SYSTEM

A—excellent (given only to students of superior ability and attainment)
B—good (given to those students who are well above the average but who are not in the highest group)
C—fair (average students)
D—poor but passing[25]
F—failure
I—incomplete
FIW—failure because of irregular withdrawal
W—all withdrawals prior to the end of the second week following the date set for mid-semester reports
WP—withdrew passing subsequent to the end of the second week following the date set for mid-semester reports
WF—withdrew failing subsequent to the end of the second week following the date set for mid-semester reports

GRADE POINTS

The grade-point average is computed on all work for which the student has registered, except for the courses with grades of "W" and "WP," and is based on the following grade-point values:

A	B	C	D	F	FIW	WF	I
4	3	2	1	0	0	0	0

Provided, however, that when a student receives a grade of I and later removes the incomplete grade, his average grade-point standing shall be calculated on the basis of the new grade.

Students are permitted to register in any course for which a grade of "D" has been received. In such cases the second grade shall supersede the first, provided it is not lower than "D."

[25]Veterans of World War II may register for courses in which they have a grade of "C or higher, but no credit will be given for the new listing.

Part II

CURRICULA AND COURSES

ABBREVIATIONS

The following abbreviations are used in the announcements of courses:

I—a course given in the first semester.
II—a course given in the second semester.
I, II—a semester course given in each semester.
I and II—a course given throughout the year.
S—a course offered in the Summer Session.
SI—a course given in first term of the Summer Session.
SII—a course given in second term of the Summer Session.
hr.—number of credit hours per course.
conc.—concurrent registration required.
consent—consent of instructor.
PR—prerequisite.

PLAN FOR NUMBERING COURSES

For convenience each course of study is designated by the name of the department in which it is given and by the number of that course. The plan of numbering is as follows:

Courses 1 to 99—courses intended primarily for freshmen and sophomores.
Courses 100 to 199—courses intended primarily for junior and seniors.
Courses 200 to 299—advanced courses open to juniors, seniors, and graduate students.
Courses 300 to 399—courses open to graduate students only.

SCHEDULES

Before the opening of each semester, a schedule is printed announcing the courses to be offered in that semester in the College of Agriculture, Forestry, and Home Economics; the College of Arts and Sciences; the College of Commerce; the College of Education; the School of Journalism; the Division of Military and Air Science and Tactics; the School of Music; and the School of Physical Education and Athletics. Schedules are prepared for the College of Engineering and the School of Mines, the College of Law, the College of Pharmacy, and the School of Medicine but are not printed.

The College of Agriculture Forestry, and Home Economics

GENERAL INFORMATION

THE COLLEGE OF AGRICULTURE, FORESTRY, AND HOME ECONOMICS

Agricultural, forestry, and home economics work at West Virginia University is organized under the College of Agriculture, Forestry, and Home Economics. For the purpose of administration the College is divided into three branches:

I. The Agricultural Experiment Station, organized for research and experimental work.
II. Resident instruction in agriculture, in forestry, and in home economics.
III. Extension work in agriculture, forestry, home economics, and boys' and girls' club work, given by the Division of Agricultural Extension to citizens of the state who are not in residence at the College.

The work of these divisions is closely interrelated. Although some members of the staff devote full time to college instruction, research, or extension work, many others divide their time among two or three of the divisions.

History

In 1897 the College of Agriculture was established as a distinct college in the University. The Agricultural Experiment Station, founded in 1888, became part of the College at the time the latter was instituted. The Agricultural Extension Division was added in 1913, and in 1914 the Department of Home Economics was transferred from the College of Arts and Sciences. Organization of the College was completed in 1937 when a full four-year course in forestry was added. The name of the unit then was changed to "The College of Agriculture, Forestry, and Home Economics."

The West Virginia Agricultural Experiment Station

The Experiment Station was established by the Board of Regents in 1888 by authority of an Act of Congress known as the Hatch Act. Further support was given by Acts of Congress known as the Adams Act, the Purnell Act, the Bankhead-Jones Act, and the Research and Marketing Act of 1946.

The objects and purposes of the Experiment Station as stated in the Hatch Act are:

"to conduct original researches or verify experiments on the physiology of plants and animals; the diseases to which they are severally subject with the remedies for the same; the chemical composition of useful plants at the different stages of growth; the comparative advantages of rotative cropping as pursued under varying series of crops; the capacity of new plants or trees for acclimation; the analysis of soils and waters; the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds; the adoption and value of grasses and forage plants; the composition and digestibility of the different kinds of foods for domestic animals; the scientific and economic questions involved in the production of butter and cheese; and such other researches and experiments bearing directly on the agricultural industry of the United States as may in

each case be deemed advisable, having due regard to the varying conditions and needs of the respective states and territories."

Under the Purnell Act the work of the Experiment Station is enlarged to include research in farm economics, rural sociology, and certain phases of home economics which relate to nutrition and the use of foods. The work of the Experiment Station is also supported by States appropriations.

Besides the provision for expanding certain types of research which were authorized previously, the Bankhead-Jones Act provides specifically for research looking toward improvement of quality in agricultural products and by-products and in manufacture, and also for research relating to the conservation, development, and use of land and water resources for agricultural purposes.

The Research and Marketing Act greatly enlarges the scope of the previous acts by providing for expansion of research in home economics, nutrition, marketing, and production of agricultural products, and further provides for new researches in housing, farm structures, introduction of new plants and animals, and for enlarged cooperation with federal, state, and private agencies.

At present, investigations are being conducted in the fields of agricultural biochemistry, agricultural economics and rural sociology, agricultural engineering, agronomy and genetics, animal husbandry, dairying, forestry, home economics, horticulture, plant pathology, and entomology. These investigations are classified into one hundred research projects.

BRANCH AGRICULTURAL EXPERIMENT STATIONS

Branch experiment stations are maintained at Wardensville, Point Pleasant, Kearneysville, and Reedsville. The Reymann Memorial Experimental Farms at Wardensville, a gift received in 1917 from the estate of Lawrence A. Reymann, occupy 987.5 acres of farm land on the Cacapon River in Hardy County. The farm is being operated on an experimental basis involving pasture improvement, erosion control, soil rebuilding, water conservation, crops, beef cattle, sheep, and poultry.

The Ohio Valley branch experiment station of 150 acres at Point Pleasant on the Ohio River was acquired in 1945 from the War Assets Administration. It is operated as a unit for the experimental production of tobacco and truck and field crops of special interest to the farmers of the Ohio and Kanawha Valleys. From this Station, supervision extends to the area at Lakin formerly operated by the Experiment Station, but operated by West Virginia State College.

The University Experiment Farm, a tract of 158 acres near Kearneysville, in the eastern fruit section, was established in 1930 as a branch experiment station for the study of problems relating to fruit production, including insect and disease control, as well as problems of general farming typical of the section. The insect investigations are carried on in cooperation with the Federal Bureau of Economic Entomology.

The Reedsville Experiment Farm in Preston County was acquired through transfer of the dairy farm of the Arthurdale Association by the Federal Housing Authority for the purpose of contributing to the welfare of the community and the people of West Virginia through demonstration and research. Work on this 457-acre farm consists of programs with potatoes, ornamentals, small fruits, corn and legumes in rotations, livestock and hillculture.

Bulletins and quarterly reports setting forth the results of experiments and investigations conducted at the Station are published for gratuitous distribution and will be mailed to any citizen of the State who applies for them.

Cooperative Extension Work

By act of the Legislature in 1913, amended in 1915, the Agricultural Extension Division was created and established in the College of Agriculture for the purpose of promoting improvement and advancement of agriculture, domestic science, and rural life among the people of the state.

County Extension agents carry on a continuous program of demonstration coupled with all available means for disseminating information on problems relating to production techniques, marketing, and soil conservation. They demonstrate new and improved varieties of crops, methods of insect and disease control, methods of cultivation, proper fertilization, and use of labor-saving devices and techniques in harvesting.

Farmers are assisted with the solution of problems relating to livestock breeding, diseases and their control, and feeding and marketing. Farmers also are helped with problems relating to management of their farms, securing of credit, combination of farm enterprises, and keeping of farm accounts.

Receiving major attention in the home phase of farm problems are those relating to nutrition, including production and conservation of foods, food selection for good nutrition, meal planning and preparation, and food preservation. Clothing for the family also receives attention. Care, repair, and operation of the sewing machine are demonstrated, as are short cuts and improved methods of sewing, and selection of materials. Attention is given to child care, training, and development and the use of labor-saving devices in the home.

All Extension workers have a deep interest in rural youth of the state. Through 4-H club work, young people are introduced to many improved practices in agriculture and homemaking. This program emphasizes the four-fold development of head, heart, health, and hand.

The primary function of the Agricultural Extension Service is education. The chief purpose of Extension is to teach people to help themselves. The organization is financed jointly by the federal, state, and county governments.

In 1929 the Legislature established at Jackson's Mill, Lewis county, a State 4-H Camp which has grown from 5 to 523 acres. Thirteen cottages erected by as many counties together with the assembly hall, swimming pool, dining room, and other buildings and equipment, furnish facilities for a series of camps, conferences, and meetings running throughout the year. It is the pioneer development of its kind in the world.

The Agricultural Extension Service cooperates with Oglebay Institute in carrying out the educational program at Oglebay Park near Wheeling. By arrangement with the Wheeling Park Board, the facilities of this park are used by the Institute for camps, conferences, and fairs. The chief purpose of this type of program is to train and develop leadership in music, recreation and other forms of leisure-time activities, as well as in handicrafts and art.

Short Courses and Special Schools

In addition to the instruction of collegiate grade offered, the College of Agriculture, Forestry, and Home Economics maintains a series of annual short courses with special schools for the benefit of adult residents in the state who wish to obtain, in brief periods, education in certain fields. The department of dairy husbandry has sponsored milk and ice cream courses for dairy plant operators and workers. The Horticulture Extension School is held each year in the Eastern Panhandle. One-day schools are held at Romney, Wheeling, and Martinsburg. The annual sessions concern many production, disease-control, and marketing problems of the Panhandle fruit grower.

Buildings and Equipment

The administration offices and many of the laboratories and classrooms of the College are in Oglebay Hall. The building contains on the basement floor the creamery and dairy laboratories, four-chambered cold-storage plant and ice machine, the mailing-room, and laboratories for animal husbandry. The first floor is devoted to the Offices of Administration of the College, the Experiment Station, and the Extension Service; the Department of Agronomy; the Division of Home Economics; and to agronomy and the home economics laboratories. The second

floor houses the Departments of Rural Organization and Animal Husbandry as well as the editorial offices and provides six recitation rooms and three home economics laboratories. On the upper floor are situated the Departments of Entomology, Horticulture, and Animal Husbandry.

The agricultural editor's office is located in the basement of Woodburn Hall.

The Extension Service also has several offices in the Spruce Street Annex.

In Oglebay Annex are situated the offices of the Department of Dairy Husbandry, and some of the laboratories of the Agricultural Engineering Department.

The Department of Plant Pathology and Bacteriology with offices, classrooms, and laboratories, occupies a section of Brooks Hall.

The old Experiment Station building houses on the first floor the office and laboratories of the Agricultural Biochemistry Department. The second floor is occupied by the soils laboratories and offices.

Beaumont House Annex houses the offices and laboratories of the Department of Agricultural Economics and Rural Sociology.

The Forestry building across Stadium Bridge houses in its two upper floors the Division of Forestry, and in its basement and first floor, the laboratories and office of the Department of Agricultural Engineering.

The Home Management House is situated at 128 Willey Street. The Nursery School is located at 549 Price Street.

The College of Agriculture now has 990 acres of land lying at a short distance from the University buildings. This land is definitely organized into a series of five farms operated respectively as Animal Husbandry, Dairy Husbandry, Poultry Husbandry, Agronomy, and Horticulture units. Each of the farms is equipped with modern farm buildings and with special buildings for experimental, laboratory, and classroom work. The Animal Husbandry Farm contains a 40-acre woodlot which is used for instruction and experimentation in forestry.

At Alvon, in Greenbrier County, the Division of Forestry maintains Camp Wood, devoted to field instruction in land surveying and timber estimating for students in the division who have passed two years of the professional forestry course. The camp, situated in the Monongahela National Forest, is equipped with permanent buildings for instruction and living accommodations.

The Division of Forestry also has 498 acres of forest land in Randolph County which is being used for research and educational training. In addition to this work, the tract is used by extension foresters to demonstrate sustained yield and forest operation for the production of hardwood timber.

The College has a long-term lease with the State Conservation Commission on an 8000-acre tract of Cooper's Rock State Forest, lying north of State Route 73, for use by the Forestry Division for experimental purposes.

With its farm land, buildings, and equipment the College of Agriculture, Forestry, and Home Economics is enabled to offer thorough and complete training in most branches of agriculture and forestry which are applicable to West Virginia conditions, and to provide adequate training in several fields in home economics.

As part of the work in several of the courses offered in the College, visits are made to large farms, specialized farms or farming regions, and city markets. Students are expected to pay their own expenses, which are kept at a moderate figure.

Student Activities

Every student entering judging courses offered in the college has the opportunity of competing for a place on livestock, meat, dairy cattle, dairy products, poultry, and fruit-judging teams. Qualified teams compete at regional, national, and international contests.

Numerous organizations on the Campus are open to University students. Of special interest to students of agriculture, forestry, or home economics are the Agriculture Council, Mountaineer Poultry Club, Mountaineer Collegiate Chapter of

Future Farmers of America, Forestry Club, Dairy Science Club, Home Economics Club, University 4-H Club, Alpha Zeta, (agricultural honorary), Phi Upsilon Omicron (home economics honorary), and Alpha Tau Alpha (agricultural educational organization).

FACULTY COMMITTEES

Students' Courses and Hours: Messrs. Varney, Armentrout, Pohlman and Percival; Miss Noer.
Scholarship: Miss Hurst; Messrs. True and Hill.
Student Placement and Farm Practice: Messrs. Livesay, Henderson and Marsh.
Library:¶ Messrs. Brooks, and Ackerman; Miss Palmer.
Faculty Executive: Messrs. Varney, Black, Pohlman, Luchok, and Tryon; Miss Dietrich.
Student Aid and Grants: Messrs. Black, Dorsey, and Butler.

STATION STAFF COMMITTEES

Station Projects: Messrs. Longhouse, Olson, Toben, and Foster.
Station Publications: Messrs. Schubert, Barnett, and Anderson.

¶Joint Committee of the College and Experiment Station.

Division of Agriculture

The training offered in agriculture is adapted to fit the student for farm life or professional and business fields. Graduates may engage in farming as managers or as farm owners, in the teaching of agriculture in high schools or colleges, in extension work as county agents or specialists, in research work in experiment stations or other organizations, or in many of the federal activities in aid of agriculture. They may engage in business related to farming, such as dairy manufactures, meat processing, seeds and nursery stock, feeds and fertilizers, or marketing.

For the use of students, the following laboratories are maintained in the college: agricultural chemistry, agronomy, soils, genetics, animal husbandry, animal pathology, dairy husbandry, entomology, agricultural economics, rural sociology, agricultural engineering, horticulture, nutrition, plant pathology, and poultry husbandry.

The Dean of the College of Agriculture will act as adviser for all agriculture students and will assign students to other advisers whom he may designate.

REQUIREMENTS FOR DEGREES

The Division of Agriculture offers four-year courses leading to the following degrees: (1) Bachelor of Science in Agriculture, (2) Bachelor of Science, and (3) Bachelor of Science in Agricultural Engineering. The degree of Bachelor of Science in Agriculture, together with the degree of Bachelor of Arts in the College of Arts and Sciences, may be acquired in five years. The Division of Agriculture also offers a two-year curriculum leading to the Certificate in Agriculture. Graduate work is discussed on page 83.

For graduation, an average of 2 grade points per credit hour is required for all courses taken, whether passed or failed.

The "semester hour" is the standard for computing the amount of work required for graduation. The "hour" represents the amount of work done in one semester (eighteen weeks) in one recitation with two preparation hours a weeks, or three hours, practice or laboratory work requiring no outside preparation.

No student may register for less than 14 hours or more than 20 hours of work in any one semester without special permission.

Students who are not required to take military science must substitute elective credits. First-year English (English 1 and 2 or their equivalent) must be completed before any upper-division courses may be pursued for credit towards the degree.

BACHELOR OF SCIENCE IN AGRICULTURE

The curriculum leading to the degree of Bachelor of Science in Agriculture is designed to provide a broad and well-grounded training in the general field of agriculture so that the graduate may be prepared for occupations requiring such general knowledge, and may have the necessary foundation for such specialization as he may elect to pursue.

The requirements for the degree of Bachelor of Science in Agriculture are:

1. Constants, or courses required of all qualifying for this degree.

2. Courses to be taken in the field of the student's major interest.

3. Free electives sufficient to bring the total number of credits to 144 semester hours.

4. A grade-point average of not less than two points per semester hour.

All candidates for the degree must take the following courses:

Biology: Biology 1 (4 hr.) and Biology 2, Botany 2 or Zool. 3 (4 hr.).

Chemistry: Chem. 1 and 2 (8 hr.).

English: Eng. 1 and 2 (6 hr.) and Eng. 18 (3 hr.).

Economics: Econ. 1 or Agr. Econ. 102 (3 hr.).

History: Hist. 2 (3 hr.).

Mathematics: Math. 11 (3 hr.).

Military: Military or Air Science 1, 2, 3, and 4 (men) (8 hr.).

Physical Education: P.E. 1 and 2 (men) (2 hr.); (women) (4 hr.).

Physics: Physics 1 and 3 and 2 and 4 (8 hr.) (Vocational Agriculture students not included).

Political Science: Pol. Sci. 101 (3 hr.) (Vocational Agriculture students not included).

In addition to the above constants, each student is required to take the courses under the curriculum. At least 20 hours given in the department in which the student is majoring are required.

After requirements have been met, electives may be chosen without restriction as to college or department, with the approval of the adviser. Required and elective hours taken in the College of Agriculture, however, must total at least 60. Provision is made for upper-division students who may wish to elect certain lower-division subjects such as languages.

Students who wish to specialize may select majors in Agricultural Economics, Agricultural Mechanics, Agronomy and Genetics, Animal Husbandry, Dairy Husbandry, Dairy Manufacturing, Horticulture, Landscaping, Poultry Husbandry, and Vocational Agriculture. Students desiring a more general knowledge of agriculture, particularly those who expect to farm for themselves or go into Extension work, may pursue a curriculum in General Agriculture.

The following curricula indicate course requirements in each of the majors:

CURRICULUM IN AGRICULTURAL ECONOMICS

Degree: Bachelor of Science in Agriculture

This curriculum is designed principally to prepare students for advanced study in the field. Students who are interested in agricultural economics but plan to seek employment without graduate study are advised to major in General Agriculture and elect agricultural economics courses.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
A. H. 11	3	*Botany 2,	
*Biol. 1	4	Zool. 3, or	
*Chem. 1	4	Biol 2	4
*Eng. 1	3	*Chem 2	4
*Mil. or Air Sci. 1	2	*Eng. 2	3
*P. E. 1	1	*Mil. or Air Sci. 2	2
		*P. E. 2	1
		P. H. 1	4
	17		18

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Agron. 1	4	Agr. Econ. 106	3
D. H. 111	3	Agr. Econ. 131	3
*Econ. 1 or		Agron. 2	4
Ag. Econ. 102	3	*Eng. 18	3
*Math 11	3	*Mil. or Air Sci. 4	2
*Mil. or Air Sci. 3	2	*Physics 2 & 4	4
*Physics 1 & 3	4		
	19		19

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Agr. Econ. 104	3	*Hist. 2	3
A. H. 101	3	Rural Soc. 105	3
Hort. 103	3	Electives	12
*Pol. Sc. 101	3		
Electives	6		
	18		18

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Agr. Econ. 271	3	Agr. Econ. 250	3
Phil. 106	3	Electives	14
Electives	12		
	18		17

*Constants required in all curricula.

GROUP A. Elect 24 hr. from the following courses in agriculture.

1. Elect not less than 2 hr. from:
   Agr. Econ. 102, 206, 230.
2. Elect not less than 3 or more than 6 hr. from:
   Ag. M. 120, 153, 170.
3. Elect not less than 3 nor more than 6 hr. from:
   Agron. 205, 210, 254; Genetics 254, 211, 221.
4. Elect not less than 6 nor more than 12 hr. from:
   An. H. 141, 142, 143, 167, 222; P. H. 103; An. Path. 102; D. H. 12, 107, 123, 222.
5. Elect not more than 3 hr. from:
   Hort. 2, 106, 206, 213.
6. Elect not less than 4 nor more than 6 hr. from;
   Bact. 141; Entom. 102, 103; Pl. Path. 103, 106, 206.
7. Elect not less than 3 hr. from:
   Rural Org. 134; Forestry 183.

GROUP B. Elect 6 hr. from:
Econ. 111, 173, 200, 251, 261.

GROUP C. Elect 3 hr. from:
Math. 8; Hist. 182, Psych. 1; Pol. Sci. 231; Sociol. 102, 229.

FREE ELECTIVES: 11 hr.

CURRICULUM IN AGRICULTURAL MECHANICS

Degree: Bachelor of Science in Agriculture

This curriculum is intended for agricultural students who are interested in the production and primary processing of crops and livestock, in county agent and other extension work, in soil-conservation work, and in sales and other work which deals directly with farm people. To an increasing extent, the operations on the farm are being mechanized through use of power and machinery. Consequently, the student must have an acquaintance with machinery, power, electrical equipment, soil conservation, farm buildings, and other Agricultural Mechanics subjects that relate to production and processing. Such training is included in this curriculum.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
A. H. 11	3	*Botany 2,	
*Biol. 1	4	Zool. 3, or	
*Chem. 1	4	Biol 2	4
*Eng. 1	3	*Chem 2	4
*Mil. or Air Sci. 1	2	*Eng. 2	3
*P. E. 1	1	*Mil. or Air Sci. 2	2
		*P. E. 2	1
		P. H. 1	4
	17		18

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
*Econ. 1 or		D. H. 12	3
Ag. Econ. 102	3	*Eng. 18	3
*Math 11	3	M. E. 11	2
M. E. 20	3	*Mil. or Air Sci. 4	2
*Mil. or Air Sci. 3	2	*Physics 2 & 4	4
*Physics 1 & 3	4	Electives	4
Electives	3		
18		18	

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Agr. Econ. 104	3	Agron. 102	4
Agron. 1	4	*Hist. 2	3
Hort. 103	3	Hort. 106	3
Pl. Path. 103	3	M. E. 15	2
*Pol. Sc. 101	3	Electives	6
Electives	3		
	19		18

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Ag. M 120	2	Ag. M 113	3
Ag. M 151	3	Ag. M 153	3
Ag. M 175	3	Ag. M 159	3
Electives	9	Ag. M 170	3
		Ag. M 200	2
		Electives	5
	17		19

*Constants required in all curricula.

CURRICULUM IN ANIMAL HUSBANDRY

Degree: Bachelor of Science in Agriculture

The Animal Husbandry Curriculum is outlined to give students sufficient courses in the fundamental sciences, and adequate course work in other fields of agriculture to balance their knowledge of agriculture as a whole. The Animal Husbandry courses required and taken as electives will give students a good foundation to continue graduate work in their chosen major, or to be employed in special lines of work open to students majoring in this field.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
*Biol. 1	4	*Botany 2	4
*Chem. 1	4	*Chem 2	4
*Eng. 1	3	*Eng. 2	3
Hort. 3	3	*Mil. or Air Sci. 2	2
*Mil. or Air Sci. 1	2	*P. E. 2	1
*P. E. 1	1	P. H. 1	4
	17		18

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Agron. 1	4	Agron. 2	4
A. H. 11	3	Bact. 141	4
Chem. 31	4	*Eng. 18	3
*Econ. 1 or		*Mil. or Air Sci. 4	2
Ag. Econ. 102	3	Zool. 3	4
*Math 11	3		
*Mil. or Air Sci. 3	2		
	19		17

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
A. H. 101	3	Agr. Econ. 131	3
A. H. 167	3	A. H. 138	2
D. H. 111	3	Etom. 102	4
*Physics 1 and 3	4	*Hist. 2	3
*Pol. Sc. 101	3	*Physics 2 and 4	4
Elective	2	Electives	3
	18		19

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Agr. Econ. 104	3	Agron. 254	4
An. Path. 102	3	A. H. 222	3
Genetics 221	3	Electives	11
Electives	9		
	18		18

*Constants required in all curricula.

Suggested Electives: An. Path. 206 (3 hr.); Hist. 182 (3 hr.); Ag. M. 175 (3 hr.); P. H. 103, 201 (3 hr.); A. H. 141 (3 hr.); A. H. 143 (2 hr.); Rural Org. 134 (2 hr.); A. H. 203 (3 hr.); A. H. 142 (3 hr.); A. H. 162 (3 hr.); A. H. 202 (2 hr.); Agron. 210 (3 hr); Ag. M. 153 (3 hr.); Pl. Path. 103 (4 hr.); D. H. 12 (3 hr.); Speech 11 (either semester, 3 hr.); Forestry 183 (3 hr.); Biochemistry 220 (4 hr.); Zoology 271, (4 hr.).

CURRICULUM IN AGRONOMY AND GENETICS

Degree: *Bachelor of Science in Agriculture*

This curriculum is suggested for students who plan to become research workers or instructors in farm crops or soils, or who later expect to become engaged in agricultural activities where knowledge of soils or field crops production is of a major importance.

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
*Biol. 1	4	*Botany 2	4	Agron. 1	4	Agron. 2	4
*Chem. 1	4	*Chem 2	4	Chem. 31	4	*Eng. 18	3
*Eng. 1	3	*Eng. 2	3	*Math 11	3	*Mil. or Air Sci. 4	2
*Mil. or Air Sci. 1	2	*Mil. or Air Sci. 2	2	*Mil. or Air Sci. 3	2	*Physics 2 and 4	4
*P. E. 1	1	*P. E. 2	1	*Physics 1 and 3	4	Electives	6
Agr. Elective	3	Agr. Elective	4				
	17		18		17		19

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
A. H. 101	3	Botany 161	4	*Econ. 1 or Agr. Econ. 102	3	Agron. 254	4
Bact. 141	4	*Hist. 2	3	Genetics 221	3	Electives	14
Hort. 2	4	Hort. 1	4	Pl. Path. 103	4		
*Pol. Sc. 101	3	Electives	7	Speech 11	3		
Electives	4			Electives	6		
	18		18		19		18

*Constants required in all curricula.

For crops majors Zoology 3, Entomology 102, and Genetics 220 are required.
For soils majors Geology 1 and 2 and Chemistry 115 are required.
Electives should be chosen primarily from courses listed below, and include at least 5 hr. of Agronomy and Genetics.

Agr. Econ. 104, 206
Ag. M. 151, 153, 159, 175
Agron. 205, 210, 215, 230, 231, 251, 252
A. H. 11
Botany 221
D. H. 111
Genetics 222
Language—6 hr.
Math. 3 and 4
Pl. Path. 202

CURRICULUM IN DAIRY HUSBANDRY

Degree: *Bachelor of Science in Agriculture*

The curriculum in Dairy Husbandry is planned to give the student interested in dairy production a thorough training in this field. It is designed to train leaders in the dairy field. Students completing this curriculum should be qualified to operate successfully their own farm or to serve as herdsmen, farm managers, field men, county agricultural agents, milk sanitarians etc., or to continue in the educational field.

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
*Biol. 1	4	*Botany 2	4	*Econ. 1 or		Agron. 2	4
*Chem. 1	4	*Chem. 2	4	Ag. Econ. 102	3	Bact. 141	4
*Eng. 1	3	D. H. 2	3	Chem. 31	4	*Eng. 18	3
*Mil. or Air Sci. 1	2	*Eng. 2	3	D. H. 111	3	*Mil. or Air Sci. 4	2
*P. E. 1	1	*Mil. or Air Sci. 2	2	*Math 11	3	*Physics 2 and 4	4
Agr. Elective	3	*P. E. 2	1	*Mil. or Air Sci. 3	2		
				*Physics 1 and 3	4		
	17		17		19		17

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Agron. 1	4	Agron. 254	4	Agr. Econ. 104	3	A. H. 203	3
A. H. 11	3	D. H. 123	2	D. H. 107	3	D. H. 222	4
A. H. 101	3	*Hist. 2	3	D. H. 221	3	Electives	12
An. Path. 102	3	Speech 11	3	Electives	10		
Genetics 111		Electives	6				
or 221	2-3						
*Pol. Sc. 101	3						
	18-19		18		19		19

*Constants required in all curricula.

Suggested Electives: Zool. 3 (4 hr.); P. H. 1 (4 hr.); Hort. 103 (3 hr.); Agron. 210 (3 hr.); Agron. 205 (2 hr.); A. H. 167 (3 hr.); A. H. 222 (3 hr.); Agr. Econ. 105 (3 hr.); Agr. Econ. 131 (3 hr.); Agr. Econ. 230 (2-3 hr.); Agr. Econ. 235 (2 hr.); Ag. M. 159 (3 hr.); Ag. M. 170 (3 hr.); Ag. M. 175 (3 hr.); Ag. M. 153 (3 hr.); Dairy Bact. 246 (4 hr.); D. H. 103 (3 hr.); Entom. 102 (4 hr.); Libr. Sci. 1 (2 hr); Agr. Bichem. 318 (3 hr.).

CURRICULUM IN DAIRY MANUFACTURING

Degree: *Bachelor of Science in Agriculture*

The curriculum given in Dairy Manufacturing below is designed for those students planning to enter the dairy industry as plant men, fieldmen or technicians.

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
*Biol. 1	4	*Botany 2	4	Chem. 31	4	Bact. 41	4
*Chem. 1	4	*Chem 2	4	*Econ. 1 or		Chem. 15	3
*Eng. 1	3	D. H. 12	3	Ag. Econ. 102	3	*Eng. 18	3
*Mil. or Air Sci. 1	2	*Eng. 2	3	*Math 11	3	*Mil. or Air Sci. 4	2
*P. E. 1	1	*Mil. or Air Sci. 2	2	*Mil. or Air Sci. 3	2	*Physics 2 and 4	4
Agr. elective	3	*P. E. 2	1	*Physics 1 and 3	4	Electives	3
				Electives	3		
	17		17		19		19

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Agr. Biochem 218	3	Agr. Econ. 235	2	D. H. 103	3	D. H. 104	3
Agr. Econ. 160	2	Agr. M. 113	2-3	D. H. 107	3	D. H. 204	4
D. H. 102	3	D. H. 222	1-2	Electives	12	Electives	11
D. H. 111	3	*Hist. 2	3				
D. Bact. 246	4	Speech 11	3				
*Pol. Sc. 101	3	Electives	3				
	18		18-20		18		18

*Constants required in all curricula.

Suggested Electives: P. H. 1; Genetics 111; A. H. 167, 11, 101; Hort. 103; Chem. 105; Agron. 1; Agr. Econ. 104, 131; D. H. 221; Math. 4; Zool. 3; Agr. Econ. 230; Agr. Biochem. 220; D.H. 123.

CURRICULUM IN GENERAL AGRICULTURE

Degree: *Bachelor of Science in Agriculture*

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
*Biol. 1	4	*Biol. 2	4	Agron. 1	4	Agron. 2	4
*Chem. 1	4	*Chem 2	4	Chem. 31	4	*Eng. 18	3
*Eng. 1	3	*Eng. 2	3	Econ. 1 or Agr. Econ 102	3	P. H. 1	4
*Mil. or Air Sci. 1	2	*Mil. or Air Sci. 2	2	Hort. 3	3	*Mil. or Air Sci. 4	2
*P. E. 1	1	*P. E. 2	1	*Math. 11	3	Electives	6
Agr. elective	3	Agr. elective	4	*Mil. or Air Sci. 3	2		
	17		18		19		19

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
A. H. 101	3	Entom. 102	4	Agr. Econ. Elective	3	Agr. Econ. elective	3
Bact. 141	4	*Hist. 2	3	An. Path. 102 or Pl. Path. 103	3-4	Ag. M. elective	3
D. H. 111	3	*Physics 2 and 4	4	Ag. M. elective	3	Forestry 183	3
*Physics 1 and 3	4	Speech 11	3	Genetics 111 and 112, or 221	3	Electives	9
*Pol. Sc. 101	3	Electives	3	Elecitves	7-6		
	17		17		19		18

*Constants required in all curricula.

CURRICULUM IN HORTICULTURE

Degree: *Bachelor of Science in Agriculture*

The Horticulture curriculum in production of fruits, vegetables, and flowers has been revised recently to meet the current needs of students who desire to have their own commercial enterprise or a sound professional training for filling a position with an established organization. The low investment required for the production of small fruits, vegetables, bulb crops, and nursery stock presents unlimited opportunities for young men with a thorough horticultural training. Small areas of tillable land in West Virginia demand use of the intensive type of horticultural crops if the

greatest return is to be realized. Local marketing of horticultural crops is no problem in most of West Virginia, since the demand exceeds the supply.

Certain courses offered in Horticulture are designed to interest nonagricultural students who desire to use the subject matter for improving their daily living or hobby interests. These courses deal with home grounds beautification, home vegetable and fruit production in Horticulture 3 or 103, and propagation in Horticulture 4 or 104.

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Hort. 2	4	*Botany 2	4	Chem. 31	4	Agron. 2	4
*Biol. 1	4	*Chem 2	4	*Econ. 1 or		Bact. 41	4
*Chem. 1	4	*Eng. 2	3	Ag. Econ. 102	3	*Eng. 18	3
*Eng. 1	3	Hort. 1	4	Hort. 139	3	Hort. 141 or	
*Mil. or Air Sci. 1	2	*Mil. or Air Sci. 2	2	*Math 11	3	104	3
*P. E. 1	1	*P. E. 2	1	*Mil. or Air Sci. 3	2	*Mil. or Air Sci. 4	2
				*Physics 1 and 3	4	*Physics 2 and 4	4
	18		18		19		20

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Agron. 1	4	Entom. 2	4	Ag. M. 175	3	Ag. M. 113	3
Pl. Path. 103	4	*Hist. 2 (or		Botany 221	4	Agron. 210	3
*Pol. Sc. 101	3	52 and 53)	3	Genetics 221	3	Hort. 141, 104,	
Hort. 206	3	Hort. 106	2	Hort. 213,		212, or 233	3
Electives	3	Pl. Path. 204		232, or 239	3	Electives	8
		205, or 206	3	Electives	4		
		Electives	6				
	17		18		17		17

*Constants required in all curricula.

Suggested Electives: Agr. Econ. 104, 131; Ag. M. 113, 151, 159, 170, 175; Agron. 1, 25, 215, 230; Art 11, 12, 30; A.H. 11, 104, 101; Geol. 1; Botany 274; Bus. Adm. 245, 270; Chem. 5; D. H. 111; Econ. 111; Entom. 103; Forestry 183; Hort. 140, 141, 142, 143, 147, 148, 239; Languages; Libr. Sc. 1; Math. 4; Pl. Path. 313. P. H. 1; Speech 11.

CURRICULUM IN LANDSCAPING

Degree: *Bachelor of Science in Agriculture*

The field of ornamental horticulture is broad, for it includes the work of nurserymen and landscape operators, as well as greenhousemen and florists, both in production and merchandising. There is a rapidly developing interest in this field in West Virginia. Because of this, opportunities for employment of graduates are increasing.

Because of the breadth of the field, two different curricula are offered to fit the needs of the student, landscaping and production. Courses for the latter are listed under the Curriculum in Horticulture. The first two years are devoted to a broad, basic foundation as preparation for specialization during the junior and senior years. Emphasis is placed on a sound understanding of the basic principles involved. In addition to this, one twelve-week Summer Session is required, for those lacking experience, where practical aspects of garden construction and maintenance and nursery practices are emphasized.

Students with a city background will fit into this field much more readily than in some other phases of agriculture.

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
*Biol. 1	4	*Botany 2	4	Art 11	3	Agron. 2	4
*Chem. 1	4	*Chem 2	4	Chem. 31	4	Art 12	3
*Eng. 1	3	*Eng. 2	3	Hort. 139	3	Bact. 41	4
Hort. 2	4	Hort. 1	4	Math. 2 or 3	3	Hort. 141	3
*Mil. or Air Sci. 1	2	*Mil. or Air Sci. 2	2	M. E. 20	3	Math. 4 or 10	3
*P. E. 1	1	*P. E. 2	1	*Mil. or Air Sci. 3	2	*Mil. or Air Sci. 4	2
	18		18		18		19

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
C. E. 5	4	Ag. M. elective	3	Botany 273	4	*Physics 2 and 4	4
*Econ. 1 or		Eng. 18	3	Genetics 221	3	Pl. Path. 205	3
Ag. Econ. 102	3	Entom. 2	4	*Physics 1 and 3	4	Electives	10
Hort. 239	4	Geol. 1	3	Pol. Sc. 101	3		
Pl. Path. 103	4	*Hist. 2 (or		Electives	3		
Electives	3	52 and 53)	3				
		Hort. 104	3				
	18		19		17		17

*Constants required in all curricula.

Suggested Electives: Agr. Econ. 104, 131; Ag. M. 113, 151, 159, 170, 175; Agron. 1, 25, 215, 230; Art 11, 12, 30; A. H. 11, 104, 101; Geol. 1; Botany 274; Bus. Adm. 245, 270; Chem. 5; D. H. 111; Econ. 111; Entom. 103; Forestry 183; Hort. 140, 141, 142, 143, 147, 148, 239; Libr. Sci. 1; Math. 11; Pl. Path. 313; P. H. 1; Speech 11, Languages.

CURRICULUM IN POULTRY HUSBANDRY

Degree: *Bachelor of Science in Agriculture*

The curriculum in Poultry Husbandry is designed to give the student a thorough knowledge of subject matter necessary for poultry raising, poultry improvement work, management of a poultry breeding farm, and as a basis for graduate training for teaching and research in Poultry Husbandry. Students may select elective courses to meet their special needs.

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
*Biol. 1	4	*Chem 2	4	Chem. 31	4	Bact. 41	4
*Chem. 1	4	*Eng. 2	3	*Econ. 1 or		*Eng. 18	3
*Eng. 1	3	*Mil. or Air Sci. 2	2	Ag. Econ. 102	3	*Mil. or Air Sci. 4	2
*Mil. or Air Sci. 1	2	*P. E. 2	1	*Math 11	3	*Physics 2 and 4	4
*P. E. 1	1	P. H. 1	4	*Mil. or Air Sci. 3	2	Electives	4
Agr. elective	4	*Zool. 3	4	*Physics 1 and 3	4		
				Electives	3		
	18		18		19		17

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
An. Path. 102	3	*Hist. 2	3	P. H. 103	3	An. Path. 206	3
Genetics 221	3	P. H. 108	1	P. H. 109	1	Zool. 232	5
*Pol. Sc. 101	3	Electives	14	P. H. 201	4	Electives	11
P. H. 106	2			P. H. 211	2		
Electives	7			Zool. 271	4		
				Electives	4		
	18		18		18		18

*Constants required in all curricula.

Suggested Electives: Agr. Econ. 104, 131; A. H. 11, 101, 167, 203; Agron. 1; D. H. 111; Entom. 102; P. H. 105, 110, 111, 213; Speech 11; Ag. M. 159, 170.

In addition to the above required courses the student will be required to take at least 3 hours of Animal Husbandry, and Horticulture, and 4 hours of Agronomy.

CURRICULUM IN VOCATIONAL AGRICULTURE

Degree: Bachelor of Science in Agriculture

The State Board of Education has set up definite requirements applicable to all college graduates desiring to teach in West Virginia high schools. These requirements specify the kind and number of various sciences and agricultural courses as well as courses in professional education subjects, all of which are necessary to qualify graduates for certification. This curriculum is designed to prepare students for a teaching career in the field of vocational agriculture, with provisions for teaching biology as a second field. To meet the state requirements for teaching vocational agriculture, a B. S. Degree in Agriculture is required. This curriculum satisfies the requirements for this degree.

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
*Eng. 1 or		*Eng. 2 or		Hort. 3	3	Agron. 2	4
Eng. 1 (Com.)	3	Eng. 2 (Com.)	3	Agron. 1	4	*Hist. 2	3
A.H. 11	3	Poul. Husb. 1	4	Eng. 18 or		Eng. 5 or 6	3
*Biol. 1	4	*Biol. 2	4	Eng. 21 (Com.)	3	Soc. Sci. 2	4
*Chem. 1	4	*Chem. 2	4	Soc. Sci. 1	4	*Mil. or Air Sci.	4 2
*Mil. or Air Sci. 1	2	*Mil. or Air Sci. 2	2	Hist. 1	3	Elective	3
*P. E. 1	1	*P. E. 2	1	*Mil. or Air Sci. 3	2		
	17		18		19		19

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
*Math. 11	3	Bact. 141	4	Ag. Econ. 104	3	Educ. 114	3
Ag. Mech. 152	3	Ag. Mech. 153	3	Dairy Husb. 111	3	Educ. 120	2
A. H. 101	3	Forestry 183	3	Educ. 160	3	Educ. 124	4
Ag. Econ. 102	3	Educ. 56	3	Electives	9	Educ. 276	2
Educ. 55	3	Electives	5			Rural Org. 118	2
Elective	3					H. Educ. 180	2
						Elective	3
	18		18		18		18

*Constants required in all curricula.

Note: Fifteen hours of electives must be in Agriculture. To meet requirements for a certificate, a student must complete: Music 10; Art 30 or 130; Animal or Plant Pathology; total of nine hours of Agricultural Mechanics.

BACHELOR OF SCIENCE

The curriculum leading to the degree of Bachelor of Science is designed for those who are interested in teaching agricultural science and especially interested in research.

CURRICULUM IN AGRICULTURAL SCIENCE

Degree: *Bachelor of Science*

Students who expect to do graduate work in preparation for teaching agricultural science in colleges and universities or for research work in experiment stations, or for other work in specialized fields of basic agricultural science, may register for the Curriculum in Agricultural Science. Only those students who have a high-school record above average and who are capable of maintaining a scholarship average of "B" or above should follow this curriculum. Success in graduate work will depend upon better-than-average undergraduate scholarship, and such undergraduate work must include adequate preparation in biology, mathematics, English, and foreign languages. The degree of Bachelor of Science is conferred upon the satisfactory completion of this curriculum. At least 45 hours of courses in the College of Agriculture are required.

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
*Biol. 1	4	*Botany 2	4	Bact. 41	4	*Hist. 2 or 52	
*Chem. 1	4	*Chem. 2	4	Chem. 5	4	and 53	3
*Eng. 1	3	*Eng. 2	3	*Econ. 1 or		*Mil. or Air Sci. 4	2
Math. 2 or 3	3-4	Math. 3 or 4	3	Agr. Econ. 102	3	Speech 11	3
*Mil. or Air Sci. 1	2	*Mil. or Air Sci. 2	2	*Eng. 18	3	Quan. Chem. 6	4-5
*P. E. 1	1	*P. E. 2	1	Math. 4 (if not taken earlier)	3	Zool. 3	4
				*Mil. or Air Sci. 3	2		
	17-18		17		19		16-17

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Chem. 233	5	*Physics 2 and 4	4	Electives	18	Electives	18-19
†German, French or Spanish	3	†German, French, or Spanish	3				
*Physics 1 and 3	4	Electives	11				
*Pol. Sc. 101	3						
Electives	3						
	18		18		18		18-19

*Constants required in all curricula.
†Take in junior or senior year.
At least 45 hours of agriculture are required.

BACHELOR OF SCIENCE IN AGRICULTURAL ENGINEERING

Agricultural Engineering is the application of engineering principles to agriculture. Success in the application of engineering fundamentals to the agricultural industry requires knowledge of both biological and physical sciences. The purpose of the course it to give the student who completes it general training in agriculture and in engineering fundamentals. Considerable stress is given to the basic requirements of animal and plant life on the farm which affect engineering practices, but greater emphasis is made on a thorough knowledge of those underlying principles and methods which are the foundation of all engineering professions.

Although the curriculum gives no opportunity for specialization, Agricultural Engineering is made up of four major fields. These are Farm Power and Machinery, Farm Structures, Soil and Water Conservation, and Rural Electrification.

Students preparing to take Agricultural Engineering should present for entrance as many units as possible in mathematics, chemistry, and physics; also, sufficient farm experience to meet the College of Agriculture requirements.

Some of the organizations and industries employing agricultural engineers are electric power companies and co-operatives; farm machinery manufacturers and distributors; manufacturers and distributors of building materials, oil companies; electric equipment and other suppliers for farm utilities; trust companies; farm management agencies; federal agencies such as Soil Conservation Service, U. S. Department of Agriculture, Federal Land Bank, and Indian Service; colleges and universities; Army and Navy, and foreign governments.

Opportunities for employment are numerous. At no time since the establishment of the profession has it been crowded, and the outlook is good for a continuance of this situation. With agriculture becoming increasingly mechanized, the demand for agricultural engineers is increasing and should continue to increase. New opportunities arise as mechanization continues. Starting salaries are in line with salaries in other branches of engineering.

CURRICULUM IN AGRICULTURAL ENGINEERING

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	Phys. 105	4	Phys. 106	4
Math. 3	4	Math. 5	4	Phys. 107	1	Phys. 108	1
Math. 4	2	Chem. 2	4	Math. 107	4	Math. 108	4
Chem. 1	4	Mil. or Air		Mil. or Air		Mil. or Air	
Mil. or Air		Sci. 2	2	Sci. 3	2	Sci. 4	2
Sci. 1	2	P.E. 2	1	Agron. 1	4	M. 101	3
P.E. 1	1	C.E. 1	2	M.E. 29	4	Botany 2	4
M.E. 20	3	M.E. 26	3				
G. 1 Lectures	0						
	19		19		19		18

Summer Session Following First Year

M.E. 11	2	Economics 30	3
M.E. 12	1	M.E. 7	1

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Speech 13	2	M. 104	3	C.E. 115	2	Bus. 5	3
M. 102	4	M.E. 113	4	Hort. 103	3	Agr. Eng. 190	3
E.E. 102	4	M.E. 222	3	Agr. Eng. 140	3	Agr. Eng. 110	2
Chem. 131	4	Dairy H. 12	3	Agr. Eng. 230	4	Agr. Eng. 100	3
M.E. 221	3	E.E. 103	4	C.E. 122	3	Agron. 102	4
G. 101	½	G. 102	½	G. 103	½	G. 104	½
				M.E. 123	2	M.E. 203	4
				C.E. 201	1		
	17½		17½		18½		19½

TOTAL HOURS—154

GRADUATE WORK

Graduate work leading to the Master of Science Degree is offered in all branches of agriculture and in home economics education. In certain branches, courses leading to the degree of Doctor of Philosophy are offered. The student who plans to pursue graduate work is directed to the Graduate School announcements in the University *Catalog*. Advancement in any of the professional fields is dependent on graduate study, and the student desiring to pursue such work should plan to continue in graduate study upon completion of the undergraduate curriculum. A limited number of graduate assistantships which permit half-time devotion to study are available in the Division of Agriculture and in the Experiment Station.

Teachers of vocational agriculture may combine graduate work in Agriculture and Education by taking 16 to 20 hours in Agriculture and 10 to 14 hours in Education to fulfill requirements for the M.S. Degree.

CERTIFICATE IN AGRICULTURE: TWO-YEAR CURRICULUM

Students who may wish to acquire technical training in the field of scientific agriculture, but who do not care to meet all requirements for the degree of Bachelor of Science in Agriculture, may register for the two-year curriculum leading to the Certificate in Agriculture. Requirements for entrance are a high-school diploma. The first year's work is designed to give the student basic studies in some of the principal fields of Agriculture. The second year's work is more flexible, allowing the student to specialize in some field of Agriculture if he so desires.

Seventy hours of work are required, this work to include 6 hours of English, 2 hours of physical education, and 6 hours of military science (if not exempted). At least 45 hours of credit must be taken in the College of Agriculture. Students in this curriculum can complete this course without regard to grade points; however, no credit can be transferred to the four-year course unless the grade in such course is "C" or above, and prerequisites have been met for the course.

COURSES OF INSTRUCTION

Only the technical courses offered primarily for students in Agriculture are described here. For detailed description of other courses listed as required or elective in the agricultural curriculum, see the announcement of courses in the College of Arts and Sciences or in other colleges.

Admission to any advanced elective course is conditional upon the consent of the instructor.

Courses 1 to 99—intended for freshmen and sophomores.
Courses 200 to 299—advanced courses for juniors, seniors and graduates.
Courses 300 to 399—courses open only to graduate students.

ABBREVIATIONS

The following abbreviations are used in the announcements of courses:

I—a course offered during the first semester.
II—a course offered during the second semester.
I, II—a semester course offered each semester.
S—a course offered in the Summer Session.
Courses 100 to 199—intended primarily for juniors and seniors.
hr.—number of credit hours each semester.
PR—prerequisite.

AGRICULTURE

Dean Varney, Asst. Dean VanLandingham, Dr. Foster, and Staff

Undergraduate Division

5. Summer Practice. No. hr. A minimum of 12 weeks on an approved farm will be required of each candidate for the degree of Bachelor of Science in Agriculture who has not had the equivalent of at least one year's farm experience after reaching the age of 14 years. Must be done under the direction of the Dean and the Committee on Farm Practice and must be completed before the third year. Open only to students deficient in farm practice.

332. Biometry. II. 3 hr. Statistical analysis of biological data. Mr. Foster

AGRICULTURAL BIOCHEMISTRY

Professor Lewis and Assistant Professor Hare

Chemistry courses for agricultural and home economics students of undergraduate rank are offered in the College of Arts and Sciences (see Chemistry). Graduate work may be pursued under the general research course outlined under Agriculture, above.

Undergraduate Division

180, 181. Assigned Topics. I, II. 1-4 hr. per semester. Staff

218. Dairy Chemistry. I. 3 hr. PR: organic chemistry; quantitative analysis desirable. Analysis of dairy products. Offered in alternate years (1952-53). For students in Agriculture. Mr. Hare

220. Chemistry of Animal Nutrition. II. 4 hr. PR: Chem. 6 and 31 and Biochem. 239 or its equivalent. Proximate analysis of foods and rations. Digestion and metabolism of food nutrients. Chemical, biological, and microbiological assay of vitamins. 2 lect. 2 lab. Offered in alternate years (1953-54). Mr. Lewis and Mr. Hare

Graduate Division

320, 321, 322, 323. Special Topics. I and II. 2-4 hr. (For the Master's Degree, Special Topics ordinarily may count 2 to 4 hours; maximum credit, 6 hours.) Staff

350, 351, 352, 353. Seminar. I, II. 1 hr. Staff

380, 381, 382, 383. Research. I and II. 1-6 hr. per semester.

NOTE: For description of the course in general biochemistry see the *Announcements of the School of Medicine.*

CHEMISTRY

31, 131. Organic Chemistry. I. 4 hr. PR: Chem. 2 For students in Agriculture and Home Economics. Beginning aliphatic organic chemistry and biochemistry. 2 lect., 1 lab., and 1 quiz period weekly. Mr. Dustman

AGRICULTURAL ECONOMICS AND RURAL SOCIOLOGY

Professors Armentrout and Nybroten; Associate Professors Clarke and Toben; Assistant Professor Porter

Undergraduate Division

102. Agricultural Economics. I. 3 hr. Principles with application to agriculture. Mr. Armentrout

104. Farm Management. I. 3 hr. PR: Agr. Econ. 102. Types and systems of farming; considerations in starting farming; use of records in solving farm problems; land tenure and leases; production for family use. Mr. Toben

105. Sociology of Rural Life. II. 3 hr. Social aspects of rural living; characteristics of rural population, social structure, and institutional arrangements (family, community, education, religion, recreation, health, welfare, and local government). Mr. Porter

106. Value and Price. II. 3 hr. PR: Agr. Econ. 102. Nature and function of prices, price variation, and price-making forces in agriculture. Mr. Nybroten

131. Marketing Agricultural Products. II. 3 hr. PR: Econ. 1 or Econ. 102. Principles and practices. Tour of market facilities in Pittsburgh area required. Mr. Clarke

180, 181. Assigned Topics. I and II. 1-4 hr. per semester. Staff

206. Farm Planning. I. 3 hr. PR: Senior standing. Principal factors influencing returns on farms; planning use of labor, soil, crops, livestock, buildings, and equipment. Farm visits required. Mr. Toben

230. Cooperative Marketing. II. 2-3 hr. PR: Agr. Econ. 102. Principles and practices of cooperation as applied to marketing of agricultural products and to purchase of farm supplies. Mr. Clarke

235. Marketing Dairy Products. II. 2 hr. PR: Econ. 1 or Agr. Econ. 102. Milk-marketing policies and practices, including federal milk-market orders. Mr. Clarke

250. Agricultural Statistics. II. 3 hr. PR: Senior standing or consent. Sources and methods of collecting and analyzing; construction of statistical tables, charts, graphs, etc. Mr. Nybroten

271. Agricultural Economics. Agricultural Policy II. 2 hr. Mr. Armentrout

Graduate Division

320, 321, 322, 323. Special Topics. I, II. S. 2-4 hr. (For the Master's Degree, Special Topics ordinarily may count 2 to 4 hours; maximum credit, 6 hours.) Staff

340. Advanced Farm Management. I. 3 hr. PR: Ag. Econ. 206. Mr. Toben

341. Production Economics. I. 3 hr. Economic principles of production with special application to agriculture. Mr. Armentrout

342. Advanced Agricultural Economics. II. 3 hr. Mr. Armentrout

380, 381, 382, 383. Research. I and II. 1-6 hr. per semester. Staff

AGRICULTURAL ENGINEERING

Professor Longhouse; Assistant Professors Brown and Emerson; Instructor Baker

Undergraduate Division

100. Farm Structures. II. 3 hr. PR: C.E. 122. Structural design and functional requirements of farm service buildings. 2 hr. rec., 3 hr. lab. Mr. Longhouse

110. Application of Electricity to Agriculture. II. 2 hr. PR. E.E. 103. Economic application of electric light, heat, and power. 1 hr. rec., 3 hr. lab. Mr. Kjelgaard

140. Soil and Water Conservation. I. 3 hr. PR: C.E. 115. Engineering principles and practices in conservation, utilization, and management of soil and water resources. 2 hr. rec., 3 hr. lab. Mr. Reid

190. Farm Machinery. II. 3 hr. PR: M E. 203. Construction, operation, adjustment, and testing of farm machines. 2 hr. rec., 3 hr. lab. Mr. Reid

230. Farm Power. I. 4 hr. PR: M.E. 222. Not open to students who have had M.E. 229. Fundamental theories underlying design and operation of internal-combustion engines used in agriculture. 3 hr. rec., 3 hr. lab. Mr. Longhouse

Graduate Division

320, 321, 322, 323. Special Topics. I, II. S. 1-6 hr. (For the Master's Degree, Special Topics ordinarily may count 2 to 4 hours; maximum credit, 6 hours.) Staff

397, 398. Research. I and II. 1-6 hr. Staff

AGRICULTURAL MECHANICS

Undergraduate Division

20. Elementary Farm Shop. I. 2 hr. Mr. Emerson

113. Farm Refrigeration. II. 2-3 hr. General course for agricultural students in farm refrigeration: different types of refrigeration systems, refrigeration plants, cold storage, food preservation, and storage-house construction. 2 hr. rec., 3 hr. lab. Mr. Kjelgaard

151. Mechanics of Soil and Water Conservation. I. 3 hr. Planning and installation of farm land drainage, contour strip cropping, terracing, and farm ponds. 2 hr. rec., 3 hr. lab. Mr. Reid

152. Farm Shop. I. 3 hrs. Place of farm shop on farm. Construction and repair problems including carpentry, metal working, forging, fitting tools, repairing harness, and filing saws. Primarily for Vocational Agriculture Teachers. 1 hr. rec., 6 hr. lab. Mr. Emerson

153. Farm Machinery. II. 3 hr. Principles underlying construction, adjustment, care, use, and repair of farm machinery. Tillage, harvesting, and seeding machinery. 2 hr. rec., 3 hr. lab. Mr. Reid

155. Household Equipment. II. 2 hr. Planned to help students understand mechanical equipment in home and its effective use. 1 hr. rec., 3 hr. lab. Staff

159. Farm Structures. II. 3 hr. Fundamental principles of farmbuilding construction. 2 hr. rec., 3 hr. lab. Mr. Longhouse

170. Rural Electrification. II. 3 hr. Fundamentals of electricity and its application in home and on farm. Open to Agriculture students only or by consent. 2 hr. rec., 3 hr. lab. Mr. Kjelgaard

175. Farm Gas Engines and Tractors. I. 3 hr. General course for agricultural students in care, operation, and maintenance of farm gas engines and tractors. 2 hr. rec., 3 hr. lab. Mr. Longhouse

180. 181. Assigned Topics. I, II, S. 1-4 hr. per semester. Staff

200. Rural Water Supply and Sanitation. II. 2 hr. PR: A. M. 170. Mr. Kjelgaard

252. Advanced Farm Mechanics. II. 3 hr. PR: Ag. M. 152. Forging, cold-iron work, toolfitting, woodworking; offers training for teaching shopwork in rural high schools. Mr. Emerson

253. Advanced Farm Machinery. II. 3 hr. PR: Ag. M. 153. Trends and economic use of farm machinery. Primarily for graduate vocational agriculture teachers. Open to Agriculture students only or by consent. 2 hr. rec., 3 hr. lab. Mr. Reid

255. Care and Repair of Home Equipment. II. 2 hr. For advanced undergraduate and graduate students. Construction, maintenance, and repair of household equipment. Their comparative cost and economic use. 1 hr. rec., 3 hr. lab. Staff

259. Functional Requirements of Farm Buildings. I. 3 hr. PR: Ag. M. 159 or consent. Special problems *re* livestock and storages. 2 hr. rec., 3 hr. lab. Mr. Longhouse

270. Electricity in Agriculture. I. 3 hr. PR: Ag M. 170 or consent. 2 hr. rec., 3 hr. lab. Mr. Kjelgaard

Graduate Division

320, 321, 322, 323. Special Topics. I, II. S. 2-4 hr. (For the Master's Degree, Special Topics ordinarily may count 2 to 4 hours; maximum credit, 6 hours.) Staff

380, 381. Research. I and II. 1-6 hr. per semester. Staff

AGRONOMY AND GENETICS

Professor Pohlman; Associate Professor Veatch; Assistant Professors Burger and Fairchild; Instructor Neal.

AGRONOMY

Undergraduate Division

1. Farm Crops. I. 4 hr. PR: Botany 2 or Biology 2. Cereal, forage, and pasture crops.

2. 102. Soils. II. 4 hr. PR: Chem. 2. The properties of soils. Mr. Pohlman

10. Forest Soils. I. 4 hr. PR: Chem. 2. Properties of soils in relation to forestry. Mr. Pohlman

124. Climatology and Hydrology. II. 3 hr. Mr. Galpin and Staff

180, 181. Assigned Topics. I, II. 1-4 hr. per semester. Staff

205. Soil Conservation. I. 3 hr. PR: Agron. 2 or 10. Causes of soil erosion and methods for its control. One or two half-day field trips will be made during the semester. Mr. Fairchild

210. Fertilizers and Soil Fertility. II. 3 hr. PR: Agron. 2 or 10. Soil fertility; theories and practices in use of fertilizer. Mr. Pohlman

215. Development and Classification of Soils. I. 3 hr. PR: Agron. 2 or 10. Morphology, genesis and classification of soils. Soil survey methods, mapping of an assigned area, and characterictics of some important soil series of West Virginia and the United States. Mr. Fairchild

230. Soil Physics. II. 3 hr. PR: Agron. 2 Physical properties of soils in relation to crop growth, water movement, and soil erosion control. Offered in 1951-52 and in alternate years. Mr. Fairchild

231. Soil Analysis. I, II. 3 hr. PR: Agron. 2 and Chem. 6 or 15. Theory and practice in physical, chemical, and biological methods used in soil analysis. Mr. Fairchild

251. Weed Control. I. 2 hr. PR: Agron. 1 and 2. Identification and control measures for common weeds. Mr. Veatch

252. Grain and Special Crops. II. 3 hr. PR: Agron. 1 and 2. Advanced study of methods in the production of grain and special crops. Varieties, improvement, tillage, harvesting, storage and uses of crops grown for seed or special purposes. Mr. Veatch

254. Pasture and Forage Crops. II. 4 hr. PR: Agron. 1 and 2. All phases of pasture and forage crop production, including identification, seeding, management, use, seed production and storage of forage crops. Mr. Burger

Graduate Division

316. Soil Chemistry. II. 3 hr. PR: Consent. Fundamental chemical properties of soils in relation to plant growth; nature and properties of soil colloids; base exchange and soil acidity; availablity of plant food elements and soil-plant interrelationships. Offered in 1952-53 and in alternate years. Mr. Fairchild

320, 321, 322, 323. Special Topics. I, II. S. 2-4 hr. (For the Master's Degree, Special Topics ordinarily may count 2 to 4 hours; maximum credit, 6 hours.) Staff

350, 351, 352, 353. Seminar. I and II. 1 hr. per semester. Recent literature pertaining to soil and crop production. Staff

380, 381, 382, 383. Research. I and II. 1-6 hr. per semester. Staff

BACTERIOLOGY

314. Soil Microbiology. II. 3 hr. PR: Agron. 2 and Bact. 141. Occurrence of micro-organisms in soils and their relationship to decomposition of organic matter, availability of plant nutrients, and soil acidity; technique of isolation and study. Mr. Wilson

GENETICS

Undergraduate Division

111. Elementary Genetics. I, II. 2 hr. PR: 6 hours of biological science. Elementary study of the principles of heredity. Staff

112. Genetics Laboratory. I, II. 1 hr. Breeding experiments. Mr. Neal

180, 181. Assigned Topics. I, II, S. 1-4 hr. per semester. Staff

220. Crop Breeding. II. 3 hr. PR: Gen. 111 or 221. Methods and basic scientific principles involved in the improvement of leading cereal and forage crops through hybridization and selection. Mr. Veatch

221. Genetics. I. 3 hr. PR: 8 hours in biological science. Fundamental principles of inheritance. Staff

222. Advanced Genetics. II. 3 hr. PR: Genetics 111 or 221, and consent. Staff

224. Human Genetics. II. 2 hr. PR: Genetics 111 or 221. A study of inheritance in man. Staff

Graduate Division

320, 321, 322, 323. Special Topics. I, II. S. 2-4 hr. (For the Master's Degree, Special Topics ordinarily may count 2 to 4 hours; maximum credit, 6 hours.) Staff

350, 351, 352, 353. Seminar. I. and II. 1 hr. per semester. Recent literature pertaining to breeding, genetics, and cytology. Staff

380, 381, 382, 383. Research. I and II. 1-6 hr. per semester. Staff

ANIMAL HUSBANDRY

Professors Livesay, Olson, and Wilson; Associate Professors Anderson, Black, Clark and Hyre; Assistant Professors Bletner, Johnson, and Kotchek.

Undergraduate Division

ANIMAL HUSBANDRY

11. Types, Breeds, and Market Classes.* I. 3 hr. (1 lab.) Mr. Wilson

101. Animal Nutrition.* 3 hr. PR: Chem. 31 or 233. Digestion and metabolism of food nutrients, nutrient requirements of farm animals, and nutritive values of feeds and rations. Mr. Anderson

138. Grading and Selection. II. 2 hr. (2 labs.) Mr. Black

141. Beef Production. I. 3 hr. (1 lab.) Mr. Livesay

142. Pork Production. II. 3 hr. (1 lab.) Mr. Black

143. Advanced Judging. I. 2 hr. (2 labs.) Students taking this course will be required to participate in a tour of inspection of representative flocks and herds. Mr. Black

162. Mutton and Wool Production. II. 3 hr. (1 lab.) Mr. Wilson

163. Horse Production. I or II. 2 hr. (1 lab.) Emphasis on light-horse production, training, and use of horses for pleasure. Mr. Livesay

166. Meats. II. 2 hr. Lectures and demonstrations in identification, selection, and nutritive value of meat cuts. Primarily for home economics students. Mr. Johnson

167. Meats. I. 3 hr. (2 labs.) Farm butchering, curing, and care of meats. Visit to one of large packing houses of Pittsburgh required. Mr. Johnson

169. Meat Judging. I. 2 hr. Tour of representative packing plants required. Mr. Johnson

180, 181. Assigned Topics. I, II. 1-4 hr. per semester. Staff

202. Advanced Meats. II. 2 hr. (2 labs.) PR: A. H. 167. Studies covering complete correlation of animal types, quality and finish as against carcass yields, percentage, cuts, etc. Mr. Johnson

203. Advanced Animal Nutrition. II. 3 hr. PR: A.H. 11, 101, and Chem. 31 or 233. Chemistry of feeding stuffs and of animal body, as well as of digestion and metabolism of food nutrients. Mr. Anderson

222. Breeding Farm Animals. II. 3 hr. PR: A. H. 11, 101, and Gen. 111 or 221. Physiology of reproduction; inheritance; selection, care, and management of breeding animals. Mr. Livesay

223. Advanced Livestock Production. I. 3 hr. (1 lab.) PR: A. H. 11, 101, and 141. Phases of beef production involving problem work in specialized commercial and purebred fields, including processing. Mr. Livesay

224. Advanced Livestock Production. II. 3 hr. (1 lab.) PR: A. H. 11, 101, and 162. Special studies in wool and market-lamb production, including processing. Mr. Wilson

*Animal Husbandry 11 and 101 are prerequisite to all other courses in animal husbandry and animal pathology.

POULTRY HUSBANDRY

1. Poultry Production. II. 4 hr. (1 lab.) Prerequisite to all other poultry courses. Messrs. Hyre and Bletner

103. Poultry Feeding and Management. I. 3 hr. Factors in poultry production, feeding, and management as related to scientific investigations. Mr. Bletner

105. Poultry Judging. I. 2 hr. (2 labs.) Practice in selection of birds for both standard and production qualities. Mr. Hyre

106. Preparation and Grading of Eggs and Poultry for Market. I. 2 hr. (1 lab.) Latest methods in killing, dressing, and grading of poultry. Grading, storing, and processing eggs for market. (Offered in alternate years beginning in 1951-52.) Messrs. Hyre and Clark

108, 109, 110. Poultry Plant Experience. I, II, S. 1 hr. (3 hr. lab.) Experience in operating a poultry breeding farm, including feeding, trapnesting, incubation, and pedigreeing. A report will be required. Mr. Clark

111. Hatchery Management. II. 2 hr. (1 lab.) Problems involved in operating a hatchery. Mr. Bletner

180, 181. Assigned Topics I, II, S. 1-4 hr. per semester. Staff

201. Advanced Poultry Production. I. 3 or 4 hr. PR: Senior standing or consent. Special phases of broiler and egg production, disease control, labor saving studies, recent designs in buildings and heating equipment. Mr. Bletner and Staff

211. Poultry Breeding. I. 2 hr. PR: Poultry 1 and Gen. 111 or 221. Fundamental principles and practices of breeding and selecting poultry; inheritance of factors that influence production of poultry, meat and eggs. Mr. Hyre

213. Turkey Production. I. 3 hr. (1 lab.) PR: Poultry 1 or equivalent for all students. For graduate credit: Poultry 103, or consent. Current methods of turkey production, including varieties, selective breeding, nutrition, and marketing. Messrs. Clark and Bletner

ANIMAL PATHOLOGY

102. Animal Pathology. I. 3 hr. PR: General zoology and Bacteriology 141. Diseases of domestic animals, with special emphasis on common diseases. Mr. Kotchek

206. Parasites and Pathology II. 3 hr. PR: General zoology and invertebrate zoology; for nonagricultural students, consent. Common parasites of farm animals and their effect upon host. Mr. Olson

NOTE: Students assigned to a 200 course for graduate credit will be required to prepare a semester paper on some special phase of the course in addition to the regular course work.

Graduate Division — Animal Husbandry — Poultry Husbandry

320, 321, 322, 323. Special Topics. I, II, S. 2-4 hr. Advanced studies in various phases of animal husbandry or poultry husbandry; animal genetics; energy metabolism; protein metabolism; vitamin studies; parasitology; meats; pedigrees. (For the Master's Degree, Special Topics ordinarily may count for 2 to 4 hours; maximum credit, 6 hours.)

350, 351, 352, 353. Seminar. I, II. 1 hr. Animal and Dairy Husbandry staffs.

370. Methods of Animal Research. I or II. 3 hr. (Animal and Dairy Husbandry Departments.) PR: A.H. 101, Chem. 31 or 233, Gen. 111 or 221. Research

methods used in conducting experimental work in animal science. Mr. Anderson

380, 381, 382, 383. Research. I and II. 1-6 hr. per semester. Staff

DAIRY HUSBANDRY

Professor Henderson; Associate Professors Weese and Porterfield; Assistant Professor Ackerman; Instructor Fike

Undergraduate Division

12. Farm Dairying. II. 3 hr. Introductory. Composition and properties of milk and milk products; butterfat testing; manufacture of dairy products. Mr. Weese and Mr. Fike

102. Ice Cream and Refrigeration. II. 3 hr. Offered in 1952-53 and alternate years. Manufacture of ice cream; principles of refrigeration involved in the manufacture and storage of dairy products. Mr. Weese

103. Market Milk. I. 3 hr. Offered in 1953-54 and alternate years. Market milk and the manufacture of dry and condensed milk. Mr. Weese

104. Butter and Cheese. II. 3 hr. Offered in 1953-54 and alternate years. Manufacture of butter and various types of cheese. Mr. Weese

107. Milk and Public Health. I. 2-3 hr. Food value of milk and its production and processing in relation to public health. Mr. Fike

111. Dairy Production. I. 3 hr. Introductory. Breeds of dairy cattle, their selection, feeding, and management. Mr. Henderson and Mr. Ackerman

123. Dairy Judging. II. 1-2 hr. Judging of dairy cattle and dairy products. Required of all members of dairy-cattle or dairy-products judging teams. Mr. Porterfield and Mr. Weese

180, 181. Assigned Topics I. and II. 1-4 hr. per semester. For advanced dairy students who desire to pursue study along some particular phase of dairying. Staff

204. Dairy Technology. II. 4 hr. Chemical and bacteriology methods used in the technical control of milk and milk products. Mr. Fike

221. Dairy Cattle. I. 3 hr. History of breeds and families of registered dairy cattle. Organization and activities of breeding associations. Mr. Porterfield

222. Milk Production. II. 4 hr. Feeding and management of dairy cattle. Mr. Henderson

223. Breeding of Dairy Animals. II. 3 hr. PR: Genetics 111 or 221. Measuring genetics and environmental variation. Study of methods available for improving the heredity of farm animals.

Graduate Division

320, 321, 322, 323. Special Topics. I, II, S. 2-4 hr. Advanced study in such topics as vitamins, minerals, and internal secretions in relation to health, milk production, reproduction, and newer studies in the field of animal nutrition and breeding. (For the Master's Degree, Special Topics ordinarily may count for 2 to 4 hours; maximum credit, 6 hours.) Staff

350, 351, 352, 353. Seminar. I, II. 1 hr. Dairy and Animal Husbandry. Staffs

370. Methods of Animal Research. (With Animal Husbandry.) I, II, S. Research methods used in animal nutrition and breeding. Mr. Anderson

380, 381, 382, 383. Research. I and II. 1-6 hr. per semester. For graduate students working on a problem for preparation of a thesis. Staff

BACTERIOLOGY

246. Dairy Bacteriology. II. 3 hr. See under "Bacteriology," page 94.

CHEMISTRY

218. Dairy Chemistry. I. 3 hr. See under "Biochemistry," page 84.

ENTOMOLOGY

Professors Peairs and Dorsey

Undergraduate Division

2, 102. Entomology. II. 4 hr. PR: Invertebrate zoology. Biological, morphological, taxonomic, economic phases of the study of insects. Mr. Peairs

103. Economic Entomology. II. 3 hr. PR: Ent. 2 or equivalent. Standard practices in insect control; methods for study of injurious insects. Professional requirements in entomology. Mr. Dorsey

152. Forest Entomology. I. 4 hr. Insects of importance to the forest; recognition and control of insect pests in the forest. Mr. Dorsey

180, 181. Assigned Topics. I, II, S. 1-4 hr. per semester. Advanced studies in the field of interest of the student. The following are available: life history studies; response of insects to climatic variables; insect toxicology; injurious insects. Staff

201. Survey of Applied Entomology. I. 3-5 hr. Prerequisite for graduate credit: 20 hours in the field of biology. Not open to students who have credit in Ent. 102. Principles underlying the control of insects; cultural, biological, and chemical. Practice in biological and control investigations. Mr. Dorsey

204, 205. Taxonomy. I, II, S. 2-3 hr. per semester. Studies in the families and genera of insects of the region; detailed studies in restricted groups for qualified students. Mr. Dorsey

Graduate Division

320, 321, 322, 323. Special Topics. I, II, S. 2-4 hr. (For the Master's Degree, Special Topics ordinarily may count for 2 to 4 hours; maximum credit, 6 hours). Staff

370. Methods of Entomological Research. I, II. 3 hr. A study of methods which have been proposed and used for the solution of problems arising in the study of insect biology. Staff

380, 381, 382, 383. Research. I, II. 1-6 hr. per semester. Staff

HORTICULTURE

Professors Marsh and Westover; Associate Professor Childs; Assistant Professors Dye, Neal, Nisbet and Schubert; Instructor Marvel

Undergraduate Division

1. Principles of Horticulture. II. 4 hr. Vegetable gardening. Prerequisite to all courses in olericulture. Mr. Westover and Mr. Downes

4, 104. Plant Propagation. II. 3 hr. Plant propagation and nursery practice. Mr. Neal and Mr. Nisbet

2 or 102. Principles of Horticulture. I. 4 hr. Basic horticulture, fruit production, and ornamental horticulture. PR to all courses in pomology. Mr. Childs

3 or 103. Principles of Horticulture. I. 3 hr. Basic horticulture, fruit production, vegetable production, and ornamental horticulture. Combines Hort. 1 and 2 or 102. For any student in the University who is not majoring in Horticulture or Agronomy. Three lecture hours per week, with demonstrations and no lab. Mr. Schubert

106. Application of Sprays, Dusts, and Fumigants. II. 2 hr. PR: Hort. 1 and 102, Ent. 102, Plant Path. 103, Agron. 1 One lect. and one lab. Training in use of machinery and materials in application of fungicides, insecticides, herbicides, hormones and plant nutrients of horticultural crops. Mr. Marsh

115. Judging and Identification of Apple Varieties. I. 1 hr. Two laboratory periods first half of semester. Mr. Childs

116. Flower Judging. II. 1 hr. One laboratory period per week. Mr. Dye

117. Vegetable Identification and Judging. I. 1 hr. PR: Hort. 1 or permission. Identification and judging of the common vegetables. Laboratory course. Mr. Marvel

139. Landscape Design. I. 3-4 hr. Principles of landscape design with special application to home grounds. Mr. Nisbet

140. Plant Materials. II. 3 hr. Important woody and herbaceous plants used in landscape gardening. Mr. Neal

141. Greenhouse Management. II. 3 hr. A practical study of greenhouse operations. Mr. Dye

180, 181. Assigned Topics. I and II. 1-4 hr. per semester. Staff

206. Small-Fruits Production. I. 3 hr. A practical and scientific study of standard cultural practices in the small-fruits plantation. Mr. Childs

212. Commercial Tree-Fruit Production. II. 3 hr. Latest methods in pruning, spraying, soil culture, and other production practices for fruit trees from the practical and scientific standpoint. Mr. Schubert

213. Harvesting, Packing, Processing, and Storage of Fruits. I. 3 hr. Instruction in maturity standards for harvesting, grading according to national and state standards, planning and management of packing houses and storages, and processing. Mr. Marsh and Mr. Childs

232. Commercial Vegetable Production. II 3 hr. Current methods of commercial vegetable crop production, including equipment, soil and climatic adaptation, plant raising, soil culture, harvesting, grading, and packing. Mr. Westover

233. Systematic Olericulture. I. 3 hr. History, botany, and classification of vegetable crops. Offered in alternate years, 1952-1954. Mr. Westover

238. Planting Design. II. 3 hr. PR: Hort. 139 or permission. The use of ornamental plants in landscape design. Mr. Nisbet

239. Advanced Landscape Design. I. 4 hr. PR: Hort. 139 or permission. A continuation of Hort. 139; to include home grounds and recreational areas. Mr. Nisbet

Graduate Division

320, 321, 322, 323. Special Topics. I, II. S. 2-4 hr. (For the Master's Degree, Special Topics ordinarily may count for 2 to 4 hours; maximum credit, 6 hours.) Staff

380, 381, 382, 383. Research. I and II. 1-6 hr. per semester. Staff

PLANT PATHOLOGY AND BACTERIOLOGY

Professors Leach, Barnett, Lilly, and Orton; Associate Professors True and Wilson; Assistant Professor Gallegly; Instructor Sands

BACTERIOLOGY

Undergraduate Division

41, 141. General Bacteriology. I, II, S. 4 hr. (3 hr. for engineering students.) PR: Chem. 1 and 2. Introductory, morphological, cultural and physiological characteristics of bacteria, and application of bacteriology to agriculture, home economics, sanitation, and health. Mr. Wilson and Mrs. Sands

180, 181. Assigned Topics. I, II, S. 1-4 hr. per semester. Mr. Wilson and Mrs. Sands

246. Dairy Bacteriology. I. 4 hr. PR: Bact. 141. Microorganisms in market milk, in manufacture of butter, cheese, and fermented milk, and in milk hygiene; practice in preparation of media; making bacterial counts in milk. Offered in 1952-1953 and alternate years. Mrs. Sands

248. Sanitary Bacteriology. I. 3 hr. PR: Bact. 141. Standard bacteriological methods used in routine examination of water and sewage. Offered in 1953-1953 and alternate years. Mr. Wilson

Graduate Division

314. Soil Microbiology. II. 4 hr. PR: Bact. 141 and organic chemistry. Occurrence and distribution of microorganisms in soils and their inter-relationships. Their role in decomposition of organic matter and other transformations of soil constituents. Mr. Wilson

320, 321, 322, 323. Special Topics. I, II. S. 2-4 hr. (For the Master's Degree, Special Topics ordinarily may count for 2 to 4 hours; maximum credit, 6 hours.) Staff

380, 381, 382, 383. Research. I, II, S. 1-6 hr. per semester. Mr. Wilson

PLANT PATHOLOGY

Undergraduate Division

103. Elementary Plant Pathology. I. 4 hr. PR: Botany 5 and Bact. 141. Nature and causes of plant diseases; methods of control. Mr. Leach and Mr. Gallegly

106. Application of Sprays, Dusts, and Fumigants. II. 2 hr. PR: Hort. 1 and 102, Ent. 102, Plant Path. 103, Agron. 1. One lecture and one lab. Training in use of machinery and materials in application of fungicides, insecticides, herbicides, hormones, and plant nutrients of horticultural crops. Same as Hort. 106. Mr. Marsh

153. Forest Pathology. II. 4 hr. PR: Biology 2 or Botany 2. Important diseases of forest and shade trees; causes and methods of control. Mr. True

180, 181. Assigned Topics. I, II, S. 1-4 hr. per semester. Staff

202. General Plant Pathology. II. 4 hr. PR: Bact. 141 and either Plant Path. 103, 153, or 203 or consent. Primarily for graduate students and qualified seniors majoring in botany, biology, or agricultural science. Nature of diseases in plants with practice in laboratory methods. Mr. Leach, Mr. Gallegly and Staff

203. Mycology. I. 4 hr. Lectures, field and laboratory studies of parasitic and saprophytic fungi. Mr. Barnett

204. Diseases of Fruit Crops. II. 3 hr. PR: Plant Path. 103. The important diseases of commercial fruits; causes and methods of control. Offered in 1952-53 and alternate years.

205. Diseases of Ornamentals. II. 3 hr. PR: Plant Path. 103 or 153. The important diseases of ornamentals; causes and methods of control. Offered in 1953-54 and alternate years. Mr. True

206. Diseases of Vegetable Crops. I. 3 hr. PR: Plant Path. 103. The important diseases of potatoes and vegetable crops; causes and methods of control. Offered in 1953-54 and alternate years. Mr. Gallegly

Graduate Division

312. Pathological Anatomy. I. 3 hr. Abnormal tissue changes in plants. PR: Plant Path. 103, 153, or Botany 213. Offered in 1952-53 and alternate years. Mr. Orton

313. Insect Transmission of Plant Diseases. I. 3 hr. PR: Plant Path. 103, 153, or Ent. 102. Role of insects in spread and development of plant diseases. Offered in 1953-54 and alternate years. Mr. Leach

320, 321, 322, 323. Special Topics. I, II. S. 2-4 hr. (For the Master's Degree, Special Topics ordinarily may count for 2 to 4 hours; maximum credit, 6 hours.) Staff

330. Physiology of the Fungi. II. 4 hr. PR: Organic chemistry, mycology, and bacteriology, or consent of instructor. Physiological aspects of growth, reproduction, and parasitism of fungi, with emphasis on nutrition, environment, and other biotic factors. Mr. Barnett and Mr. Lilly

340. Taxonomy of the Fungi. S. 2 hr. PR: Plant Path. 203. Collection and identification of fungi, with emphasis upon those of economic importance. Mr. Barnett

350, 351. Seminar. I, II. 1 hr. Mr. Leach and Staff

380, 381, 382, 383. Research. I, II, S. 1-6 hr. Staff

RURAL ORGANIZATION

Professor Hill; Associate Professor Butler; Assistant Professor Bail

Undergraduate Division

118. Organizations and Clubs for Farm Boys. II. 2 hr. Problems involved in directing the activities of F.F.A., and similar organizations. Mr. Hill or Mr. Butler

134. Methods of Agricultural Extension. I. 2 hr. Activities of the county agricultural and home demonstration agents and of the agricultural extension program of West Virginia. Mr. Anderson

138. Theory and Practice of Agricultural Extension Work. II. 2 hr. Methods used in Extension work and their underlying principles. Mr. Anderson

*160. Education—Materials and Methods of High-school Teaching of Vocational Agriculture. I, II. 3 hr. Organization and preparation for teaching vocational agriculture in the high school. 1 lab. Mr. Hill or Mr. Butler

180, 181. Assigned Topics. I, II. 1 hr. 1-4 hr. per semester. PR: Adequate ability and training for the work proposed and permission to register. Staff

*Ed. 124. Student Teaching in Vocational Agriculture. I, II. 4 hr. Mr. Hill or Mr. Butler

Ed. 276. Methods in Special Vo-Ag Projects. II. 2 hr. PR: Ed. 160. Organization of class groups; methods of teaching and supervision in young and adult classes. Participation in conducting such classes. Mr. Hill or Mr. Butler

Ed. 277. Organizing and Directing Supervised Vo-Ag Practices. I. 2 hr. PR: Ed. 160, or consent. Planning programs of supervised practice, supervising and evaluating such programs for all-day, part-time, and evening-school students. Consent of instructor. Mr. Hill or Mr. Butler

Ed. 278. Planning Programs and Courses for Vo-Ag Departments. II. 2 hr. PR: Ed. 160. Gathering data and studying farming problems and practices for all-day, part-time, and evening-school students. Consent of instructor. Mr. Hill or Mr. Butler

Graduate Division

320, 321, 322, 323. Special Topics. I, II. S. 2-4 hr. (For the Master's Degree, Special Topics ordinarily may count for 2 to 4 hours; maximum credit, 6 hours.) Staff

350, 351, 352, 353. Seminar. I, II, S. 1 hr. Staff

380, 381. Research. I and II. 1-6 hr. per semester. Staff

The Division of Forestry

GENERAL INFORMATION

THE DIVISION OF FORESTRY

In its Division of Forestry, West Virginia University offers three four-year curricula, all leading to the degree of Bachelor of Science in Forestry. A student may major in forest management, wildlife management, or forest utilization.

The field of forestry is a broad one. Those who enter it must receive an education of a breadth equal to that of the profession which they expect to make their life work. The professional forester's work includes such diversified activities as timber production, logging, surveying, timber estimating, park management, forest protection, forest-stand improvement, flood control, watershed protection, soil erosion control, submarginal land development, restoration of game, forest-range management, stream development, lumber dry-kiln operation, plywood and furniture manufacture, timber preservation, and construction of public camps and summer home sites. The wide scope of the modern field of forestry demands a thorough basic training for the professional forester. This accounts for the large number of required courses in the professional forestry curricula. If a forester wishes to specialize in any one branch of the field, graduate work is needed.

Regardless of the major selected, the curricula include a two years' broad foundational study of the natural and social sciences basic to the field of forestry, followed in the junior and senior years by a more detailed study of forestry principles and techniques. Many of the courses in the curricula provide for field laboratories, enabling the student to see first-hand applications of the principles presented in the classroom and to experiment with the various techniques he is learning.

In addition to the forest work which forms a part of the regular courses at Morgantown and the Forestry Camp described on pages 5-6, the student is expected to devote the summer after his junior year to employment with a forest-using agency or private industry. This gives him further experience which is valuable in connection with his fourth-year studies, as well as in obtaining permanent employment after graduation.

Opportunities for junior employment may be found with the State Conservation Commission, the U. S. Forest Service, the Soil Conservation Service, the U. S. Park Service, and with the private forest industries. The remuneration for such temporary undergraduate employment varies from about $125 to $225 per month.

Facilities for Instruction

The Division of Forestry of West Virginia University is one of twenty-five forestry schools in the country which are fully accredited by the Society of American Foresters. Situated in Morgantown, it is favorably located in relation to forests available for educational and research use. Coopers Rock State Forest, an area of 13,000 acres fronting on Cheat Lake, is less than ten miles from the institution; 8,000 acres of it are managed by the University for research and demonstration purposes. The Monongahela National Forest lies within forty-five miles of Morgantown. The University Farm Forest of 100 acres bearing mature timber is within two miles. Recent acquisition by the University of the 500-acre Tygart Valley Forest at Dailey has increased the educational and research facilities of the Division. Several privately owned forests, including from 100 to 3,000 acres each, have been made available for educational and experimental use. These tracts are within short riding distance on hard-surface roads, thus allowing students to do work under practical conditions throughout their four years of training. Two auto trucks and a carry-all with a seating capacity for over fifty men are available for transporting classes to the forests. The facilities at Morgantown include well-equipped laboratories and lecture rooms, a forestry library containing forty periodicals and about fifteen thousand books and pamphlets, a practice nursery, and a modern, semi-commercial, completely automatic lumber dry kiln.

The West Virginia University Forestry Club

Regardless of what branch of forestry the student enters after graduation, he finds it necessary to direct the work of crews of skilled and semi-skilled men. The ability to lead men in effective work is, therefore, of first importance to the forester. Leadership training is provided through the Forestry Club (W.V.U. Foresters). This organization, although completely managed and financed by the students, forms a definite part of every forester's work at West Virginia University.

Each man has specific duties and responsibilities in the operation of the club. The results of these activities are considered together with scholastic attainments in the placement of graduates.

Club activities include dinner gatherings with invited speakers, meetings where various phases of the forest industry are discussed, and publication of the *Cruiser*, the foresters' yearbook. The club also sponsors athletic teams which participate in intramural contests and offers a variety of social affairs. Annual dues are five dollars, payable at time of registration.

At the time of the Foresters' Annual Banquet, an axe is awarded by the faculty to the senior student who has demonstrated his proficiency as the best all-round forester of the club.

Camp Wood

The Forestry Camp, held every summer for students who have completed their sophomore year of the professional curricula, is situated near Alvon about 12 miles north of White Sulphur Springs, in Greenbrier County, on the southern end of the Monongahela National Forest. This location offers a great variety of forest types, conditions, activities, and industries.

The instruction program provides training and practical experience in land surveying, timber estimating, and in specialized work which is different for each of the three major fields of study. Forest Management majors spend a week on a special silvicultural study, while the utilization majors make a study of wood industries in southern West Virginia. The program for these two groups culminates in a one-week trip into the southern pine region, where silvicultural operations and wood-using industries are studied. Wildlife majors spend two weeks in special fish and game studies under the supervision of members of the wildlife staff.

The main social event of the camp is its Field Day, which is held sometime during the last two weeks of camp. The students and their guests compete in traditional contests, including a softball game between the students and alumni. An exhibit of the work of the camp, swimming, dinner, and a dance are other features. At the 1939 Field Day the camp was dedicated to A. A. Wood, who was at that time supervisor of the Monongahela National Forest.

A principal aim of the camp is development of leadership ability. Not only are the party chiefs in the technical work rotated to give each man an opportunity to show his strength as a leader, but the camp is run by the students themselves. They elect a camp manager, an assistant camp manager, a steward and an assistant steward, treasurer, athletic director, and such other officers as are needed. The steward and his assistant plan all the menus and purchase all the food. Every man in camp has definite duties and responsibilities and has full opportunity for all-round development.

The cost of tuition for the entire term is $30, payable to the University Registrar at time of registration. This fee covers the entire summer camp term, which is the equivalent of both summer terms on the campus. A ration fee of about $85 must be paid to the camp treasurer before the opening of camp to take care of the cost of rations. The exact fee will be determined by a current estimate of food costs. This is a cooperative fund, and any money left in the treasury at the end of camp is divided equally among all persons who pay into the fund. Since food purchases are made by students elected by the other campers, the amount of the rebate is actually determined by the students themselves. Each student is required to provide funds to cover the cost of his room, board, and part of the transportation on scheduled trips. This cost will not exceed $50 for the summer and generally is considerably less.

The West Virginia Conservation School

The West Virginia Conservation School is held each summer during the last two weeks of July. It offers practical field training in the conservation of soil, water, forests, and wildlife. It is of value to forestry students and others who may wish to have a survey course in conservation of renewable resources and in land-use planning.

The school is under the direction of Maurice Brooks of the Division of Forestry staff. Assisting are other members of the Forestry staff and specialists from other branches of the University and from other cooperating state institutions. Two hours of residence credit are allowed for the course.

Living Accommodations

The University maintains three large dormitories, one for men and two for women. For information as to accommodations and rates, address the office of the Business Director of Residence Halls. Applications may be made one year in advance.

Board and lodging are available also in private dwellings in Morgantown. For information concerning houses on the approved list, men should address the Office of Off-campus Housing, West Virginia University, Morgantown.

Cost of an Academic Year's Work

A student's textbooks will cost from $30 to $60 a year, and his registration fees $84 if he is a resident; or $234 if a nonresident. The laboratory breakage deposit required ranges from $5 to $12, a part of which is usually returned at the end of the year. In military science a $10 deposit is required to cover military equipment in the custody of the student, practically all of which is returned to the student when he accounts for his equipment. Board and room may be obtained at approximately $460 to $550 a year. A student's laundry will cost from $25 to $35 a year. Traveling expenses, clothing, and other miscellaneous items will depend largely upon the tastes and habits of the individual student. In general, however, it may be said that the legitimate cost of a 9-month term of residence at the University ranges from $700 to $1,000.

Honor Societies

Several national honor societies have chapters active at West Virginia University.

The West Virginia chapter of Alpha Zeta, the national agricultural honor fraternity, was instituted in the College of Agriculture in 1921. Sophomores and upperclassmen who maintain high standing in scholarship and rank among the upper two-fifths of their respective classes are eligible to membership.

A chapter of Xi Sigma Pi, a national forestry honor fraternity, is in the process of being established on the campus. Upperclassmen with high scholastic records who show a keen interest in forestry will be eligible to membership.

Sears Roebuck Foundation Scholarships

Each year the Sears Roebuck Company makes available to freshman students in the College of Agriculture, Forestry, and Home Economics a certain number of scholarships. These scholarships are sufficient to cover University fees and books for the year. A portion of them are allocated annually to freshmen entering the Division of Forestry.

To be eligible for one of these scholarships, the entering freshman must live on a farm and must have had farm experience. Applicants for one of these scholarships should have full information as to the terms on which they are granted. This information may be secured by writing to Prof. R. H. Black, Chairman, Sears Roebuck Scholarship Committee, Oglebay Hall, Morgantown, W. Va.

Publications

In addition to numerous faculty publications, several books, magazines, and a newspaper are published by students. Forestry students are eligible to participate in these activities and in addition they publish *The Cruiser,* mentioned previously.

Forestry Societies

Although they do not form a part of the regular academic training program, there are at least two organizations active in forestry work in West Virginia with which the forester will come in contact during his undergraduate career.

THE SOCIETY OF AMERICAN FORESTERS

The S.A.F. is a professional society which accepts as members only those persons actually engaged in technical forestry work or studying in preparation for such work. Its objects are "to represent, advance, and protect the interests and standards of the profession of forestry, to provide a medium for exchange of professional thought, and to promote the science, practice, and standards of forestry in America." The society publishes the *Journal of Forestry.* The scope of its program and the various divisions within the society are of interest to all who are connected with the forestry profession. Junior and senior forestry students are eligible to affiliate with the society and receive the *Journal* at a special rate. Upon graduation they are encouraged to become regular members of the organization.

The West Virginia Chapter of the Allegheny Section, S.A.F., was organized in 1945 for the purpose of unifying the professional foresters working in the state. The meetings and discussions are resulting in better coordination in the work of the various agencies represented by its members. The annual summer meeting of the chapter is so arranged that senior students who wish to do so may attend as a part of their school program.

THE WEST VIRGINIA FOREST COUNCIL

Recognizing the need for a more vigorous and comprehensive forestry program in a state in which almost two-thirds of the land is primarily suited to growing trees, a group of public-spirited citizens in 1947 organized the West Virginia Forest Council. Membership in this "Task Force For Conservation," as it was recently labeled in a

feature article in *American Forests,* is open to anyone interested in better forestry for West Virginia. The officers and members of the board of directors are carefully chosen to represent all types of industries, agencies, and individuals concerned with forestry problems. Some of the better known activities of the council to date include sponsoring of the Tree Farm program, Arbor Day observance in the schools, Forestry Forums, and various other demonstrational and educational activities along conservation lines. Forestry students are eligible to membership in the council, and opportunities are offered to attend its meetings.

REQUIREMENTS FOR THE DEGREE

The Division of Forestry offers three curricula leading to the degree of Bachelor of Science in Forestry. The first year of work is the same in all three, except that students majoring in forest utilization must take Mathematics 3, College Algebra, during the first semester, and Mathematics 4, Plane Trigonometry, during the second semester. In order to take Mathematics 3, the student must offer 1½ units of algebra in his entrance credits.

FIRST YEAR

First Semester	*Hr.*	*Second Semester*	*Hr.*
Biology 1—General	4	Biology 2—General	4
Chemistry 1—General	4	Chemistry 2—General	4
English 1—Composition	3	English 2—Composition	3
Forestry 1—Profession	1	Forestry 2—Profession	1
Mathematics 2 (3)—Algebra	3	Mathematics 10 (4)—Plane Trig	3
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2
Phys. Educ. 1—Service Program	1	Phys. Educ. 2—Service Program	1
	18		18

The curricula for the last three years are shown separately as follows. In each curriculum the student should attempt to take as many of the recommended electives as possible in order to obtain a complete, well-rounded course of study.

FOREST MANAGEMENT

The forest management curriculum offers a strong basic course in forestry leading particularly to the direct or indirect management of tracts of forest land. It is designed to train the student for a professional forestry career in either public or private forestry work. Graduates are equipped to hold positions with the various state forestry and conservation departments, the U.S. Forest Service, the Forestry Division of the U.S. Indian Service, the Soil Conservation Service, and other federal or state agencies employing professional foresters. They may also be employed by private forest land owners—both corporate and individual—or may enter business as consulting foresters. This curriculum provides a good background for graduate work in the field of forest management.

SECOND YEAR

First Semester	*Hr.*	*Second Semester*	*Hr.*
Agronomy 10—Forest Soils	4	Botany 71—Plant Physiology	2
Botany 67—Dendrology	3	Botany 68—Dendrology	3
Botany 61—Systematic	2	C. E. 6—Topographic Mapping	2
C. E. 5—Land Surveying	4	Forestry 11—Silvics	2
Economics 1—(Ag. Ec. 102)—Principles	3	Forestry 15—Silvics Lab.	1
English 13—Expository Writing	2	Forestry 21—Mensuration	4
Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
		Elective	1
	20		17

Recommended Elective
Forestry 170—Problems 1

SUMMER PRECEDING THIRD YEAR

10 Weeks—10 Hours Credit

Forestry 101—Surveying Field Practice	3
Forestry 102—Mensuration Field Practice	4
Forestry 103—Forest Management Practices	3
	10

THIRD YEAR

First Semester	*Hr.*
Forestry 131—Wood Technology	3
Forestry 151—Protection	2
Forestry 114—Forest Economics	3
Physics 1—Introductory	3
Physics 3—Introductory Lab.	1
Electives	4
	16

Recommended Elective
Forestry 171—Problems 1

Second Semester	*Hr.*
Forestry 112—Silvicultural Systems	3
Forestry 116—Regional Silviculture	1
Forestry 125—Policy & Administration	3
Electives	10
	17

Recommended Electives
Forestry 113—Seeding & Planting ... 3
Forestry 142—Recreational Development 2
Forestry 143—Forest Range 2
Forestry 172—Problems 1

FOURTH YEAR

First Semester	*Hr.*
Entomology 152—For. Entomology	4
Forestry 123—Management	3
Forestry 124—Forest Finance	3
Forestry 134—Products	2
Electives	6
	18

Recommended Electives
Forestry 135—Seasoning & Preservation 2
Forestry 136—Seas. & Pres. Lab. 1
Forestry 173—Problems 1

Second Semester	*Hr.*
Forestry 133—Lumbering	3
Forestry 141—Wildlife Management	3
Plant Path. 153—Forest Pathology	4
Electives	6
	16

Recommended Electives
Forestry 122—Forest Mensuration ... 3
Forestry 127—For. Mgmt. Plans 2
Forestry 126—Forest Measurement by Aerial Photographs 3
Forestry 137—Grading Wood Products 3
Forestry 144—Forest Zoology 3
Forestry 145—Life Histories of Game Animals 3

WILDLIFE MANAGEMENT

The wildlife management curriculum does not turn out finished professional wildlife management technicians, but is designed primarily to prepare students for graduate work in this field. While it does not meet the U.S. Civil Service requirements for the entering examination in general forestry, it does fulfill the requirements for the entering examinations in biology. Students who wish to do so may take the U.S. Civil Service examination for biologists with GS-5 rating. Students electing the wildlife management curriculum will satisfy the requirements for graduation by completing successfully 150 credit hours, including all the required courses listed below and as many of the recommended electives as can be worked into the schedule

In addition to the specifically required courses, at least fifteen semester hours in the biological sciences must be completed from the following approved courses. The courses elected should be divided approximately evenly between botany and zoology. The approved courses include the following:

Botany	Hr.
Botany 273—Plant Physiology	4
Botany 261, 262—Advanced Systematic Botany	6
Botany 221—Plant Ecology	3
Botany 225—Experimental Ecology	4
Botany 227—Geographic Botany	3

Zoology	Hr.
Zoology 210—Comparative Anatomy	5
Zoology 236—Animal Behavior	3
Zoology 221—Animal Ecology	3
Zoology 229—Field Zoology	6

SECOND YEAR

First Semester	Hr.
Agronomy 10—Forest Soils	4
Botany 67, 68—Dendrology	3
Botany 61—Systematic	2
C. E. 5—Land Surveying	4
Economics 1—(Ag. Ec. 102)—Principles	3
Mil. or Air Sci. 3	2
English 13—Expository Writing	2
	20

Second Semester	Hr.
Botany 71—Plant Physiology	2
C. E. 6—Topographic Mapping	2
Botany 4—Dendrology	3
Forestry 11—Silvics	2
Forestry 15—Silvics Lab.	1
Forestry 21—Mensuration	4
Mil. or Air Sci. 4	2
Elective	1
	17

Recommended Elective

Forestry 170—Problems 1

SUMMER PRECEDING THIRD YEAR

10 Weeks—10 Hours Credit

Forestry 101—Surveying Field Practice	3
Forestry 102—Mensuration Field Practice	4
Forestry 105—Land Utilization Practices	3
	10

THIRD YEAR

First Semester	Hr.
Entomology 152—For. Ent.	4
Forestry 131—Wood Tech.	3
Forestry 151—Protection	2
Physics 1—Introductory	3
Physics 3—Introductory Lab.	1
Electives	5
	18

Second Semester	Hr.
Forestry 112—Silvicultural Systems	3
Forestry 125—Policy & Administration	3
Electives	10
	16

Recommended Electives

Forestry 171—Problems	1
Zoology 231—Comparative Anatomy	5

Recommended Electives

Forestry 113—Seeding & Planting	3
Forestry 116—Regional Silviculture	1
Forestry 142—Recreational Development	2
Forestry 143—Forest Range	2
Forestry 146—Ornithology	2
Forestry 172—Problems	1

FOURTH YEAR

First Semester	*Hr.*
Forestry 114—Forest Economics	3
Forestry 123—Management	3
Forestry 134—Products	2
Electives	9
	17

Second Semester	*Hr.*
Forestry 141—Wildlife Management	3
Forestry 144—Forest Zoology	3
Forestry 145—Life Histories of Game Animals	3
Plant Path. 153—For. Pathology	4
Electives	3
	16

Recommended Electives

Botany 273—Plant Physiology	4
Botany 221 or 227—Plant Ecology or Geographic Botany	3
Forestry 173—Problems	1
Zoology 210 or 221—Animal Behavior or Animal Ecology	3
An. Path. 102—Animal Pathology	3

Recommended Electives

Forestry 126—Forest Measurement by Aerial Photographs	2
Forestry 182—Hillculture	2

FOREST UTILIZATION

The curriculum in forest utilization is intended to prepare students to pursue graduate work in the technical phases of wood use or to enter directly into positions dealing with the conversions of forest crops into useful products. Such positions may be either governmental or industrial, with both groups further divided into various degrees of administrative, research, or developmental effort. Students electing to enter the field of forest utilization should demonstrate a marked facility in mathematics, physics, and chemistry, since these basic sciences form the foundation for a large part of the knowledge involved in the properties and processing of wood.

SECOND YEAR

First Semester	*Hr.*
Agronomy 10—Forest Soils	4
Botany 67—Dendrology	3
C. E. 5—Land Surveying	4
Economics 1 (Ag. Ec. 102)—Principles	3
Mathematics 5—Analytical Geom.	4
Mil. or Air Sci. 3	2
	20

Second Semester	*Hr.*
Botany 68—Dendrology	3
Botany 71—Plant Physiology	2
C. E. 6—Topographic Mapping	2
English 13	2
Forestry 11—Silvics	2
Forestry 21—Mensuration	4
Mil. or Air Sci. 4	2
	17

Recommended Elective

Botany 61—Systematic	2

Recommended Electives

Forestry 15—Silvics Lab.	1
Forestry 170—Problems	1

SUMMER PRECEDING THIRD YEAR

10 Weeks—10 Hours Credit

Forestry 101—Surveying Field Practice	3
Forestry 102—Mensuration Field Practice	4
Forestry 104—Forest Utilization Practices	3
	10

THIRD YEAR

First Semester	*Hr.*	*Second Semester*	*Hr.*
Chemistry 131—Organic	4	Forestry 112—Silvicultural Systems	3
Forestry 131—Wood Tech.	3	Math 108—Integral Claculus	4
Forestry 134—Products	2	M. E. 20—Mechanical Drawing	3
Math 107—Differential Calculus	4	Physics 106—General	4
Physics 105—General	4	Physics 108—General Lab.	1
Physics 107—General Lab.	1	Elective	1
	18		16
Recommended Elective		*Recommended Electives*	
Forestry 171—Problems	1	Chemistry 106—Quantitative Analysis	4
		Forestry 125—Policy and Administration	3
		Forestry 172—Problems	1

FOURTH YEAR

First Semester	*Hr.*	*Second Semester*	*Hr.*
Chemistry 105—Qualitative Analysis	4	Forestry 133—Lumbering	3
Forestry 123—Management	3	M. E. 220—Heat and Power	3
Forestry 132—Advanced Wood Tech.	3	or M. E. 221—Thermodynamics	
Forestry 135—Seasoning & Pres.	2	Mech. 102—Mechanics of Materials	4
Forestry 136—Seas. & Pres. Lab.	1	Plant Path. 153—Forest Pathology	4
Mechanics 101—Statics	3	Electives	3
Electives	2		
	18		17
Recommended Electives		*Recommended Electives*	
Entomology 152—Forest Entomology	4	Forestry 122—Forest Mensuration	3
Forestry 114—Forest Economics	3	Forestry 126—Forest Measurement by Aerial Photographs	2
Forestry 173—Problems	1	Forestry 137—Grading Wood Products	3

COURSES OF INSTRUCTION IN FORESTRY

The following abbreviations are used:

I—A course offered during the first semester.
II—A course offered during the second semester.
S—A course offered during the summer session.
hr.—Number of credit hours per course.
PR—Prerequisite.
Conc.—Concurrent.

1, 2. The Profession of Forestry. I and II. 1 hr. per semester. Survey of the profession of forestry and the opportunities available to trained men. Mr. Percival

7. Introduction to Forestry Field Practice. S. 6 to 12 weeks; 6 to 12 hr. Arrange with instructor before registering. Field practice in elementary forest surveying and measurements. Commercial tree identification and measurement and sample-plot work. Mr. Goodspeed and Staff

11. Silvics. II. 2 hr. PR or conc: For. 4. Forest and environment factors; site and type characteristics. Mr. Tryon

15. Silvics Laboratory. II. 1 hr. PR or conc: For. 11. Mr. Tryon

21. Forest Mensuration. II. 4 hr. PR: C. E. 5. Measurement of forest products, trees, and stands; timber estimating; introduction to growth and yield. Mr. Warner

46, 146. Ornithology. II. 2 hr. PR: Biol. 1 and 2 or consent of instructor. Identification, distribution, and ecology of birds (particularly of forest lands). Mr. Brooks

101. Surveying Field Practice. S. 3 hr. PR: C. E. 6. Application of surveying methods to forestry practice, employing the transit, precise level, staff compass, traverse board, and hand compass, with problems appropriate to each. Required of all students at summer camp. Mr. Byers and Staff

102. Mensuration Field Practice. S. 4 hr. PR: Botany 68 and Forestry 21. Problems in the estimation of timber volume, defect, and growth and yield, employing various systems in common use and varying the organization and equipment to meet the various situations encountered. Required of all students at summer camp. Mr. Byers and Staff

103. Forest Management Practices. S. 3 hr. PR: Forestry 102. Practice in marking timber for improvement and harvest cuttings, application of methods of treatment, and observation of the effects of past treatment on the residual stand. Required of all students at summer camp who are majoring in forest management. Mr. Byers and Staff

104. Forest Utilization Practices. S. 3 hr. PR: Forestry 102. Study of woods operations, sawmills, pulp and paper plants, plywood plants and other wood-using industries. Required of all students at summer camp who are majoring in wildlife management. Mr. Byers and Staff

105. Land Utilization Practices. S. 3 hr. PR: Forestry 102. Field and laboratory exercises in farm and forest wildlife practices. Required of all students at summer camp who are majoring in wildlife management. Mr. Brooks and Mr. Dugan

112. Silvicultural Systems. II. 3 hr. PR: For. 11. Systems used for natural reproduction; intermediate cuttings. Mr. Cantrell

113. Seeding and Planting. II. 3 hr. PR: For 11. Seeding and planting; nursery practice; phases of artificial regeneration. Mr. Tryon

114. Forest Economics. I. 3 hr. PR: Economics 1 or Agr. Economics 102. Economic and financial aspects of forestry, forest land, and forest industries and exploitation; present and potential forest resources of the U.S. Mr. Warner

116. Regional Silviculture. II. 1 hr. PR: For. 11; PR or conc: For. 112. Cutting methods for various species in different types and regions. Mr. Cantrell

122. Forest Mensuration. II. 3 hr. PR: For. 21. The measurement of growth and yield; statistical methods applied to forest measurement problems. Mr. Warner

123. Forest Management. I. 3 hr. PR: Summer Camp and For. 112. Practical silvicultural and marketing methods on forest tracts; organization of forests and regulation of cut to obtain sustained yield; coordination of multiple uses. Mr. Goodspeed

124. Forest Finance. I. 3 hr. PR: For. 114. Cost and income items in producing and exploiting forest crops; appraisal of stumpage and damages. Mr. Goodspeed

125. Forest Policy and Administration. II. 3 hr. Land policy in the United States; its historical, legal, and administrative development; the forester's relations with the public. Administration of public and private forest properties. Mr. Percival

126. Forest Measurement by Aerial Photographs. II. 2 hr. PR: For. 11 and 21. Obtaining information on forest types and timber volumes from aerial photographs through use of stereoscope, parallax wedge, and other photogrammetric devices. Mr. Cantrell

127. Forest Management Plans. II. 2 hr. PR: For. 123. Preparation for profitable management of specific forested areas. Mr. Goodspeed

131. Wood Technology. I. 3 hr. PR: For. 4. Identification of commercial timbers of U.S.; basic properties and uses of different woods. Mr. Koch

132. Advanced Wood Technology. I. 3 hr. PR or conc: For. 131. Mechanical and nontechnical properties of wood: testing, machining, gluing, finishing, and special processing of wood. Mr. Koch

133. Lumbering. II. 3 hr. PR: Summer Camp and For. 131. Logging practices and lumber manufacture. Logging and mill equipment. Important factors affecting lumber grades. Mr. Byers

134. Forest Products. I. 2 hr. PR or conc: For. 131. The production and uses of forest products other than lumber and timbers. Mr. Reid

135. Seasoning and Preservation. I. 2 hr. PR: For. 131. Purposes, effects, and methods of seasoning and preserving wood. Mr. Reid

136. Seasoning and Preservation Laboratory. I. 1 hr. Conc: For. 135. Mr. Reid

137. Grading Wood Products. II. 3 hr. PR: For. 21 and 131. Inspection methods and application of standard grading rules to forest products, with emphasis on the inspecion of hardwood and southern pine lumber. Mr. Byers

141. Wildlife Management. II. 3 hr. PR: Bot. 32 and Biol. 2. Basic principles of handling wildlife as a forest crop. (This course is not intended to train wildlife specialists.) In recognition of the importance of fish, game animals, and fur-bearing animals in the forest, the course considers the problems of the maintenance of an optimum wildlife population. Mr. Dugan

142. Recreational Developments. II. 2 hr. PR: C. E. 6 and Summer Camp. Needs of the active and passive recreationist and means of supplying facilities for meeting these needs on public forests. Mr. Brooks

143. The Forest Range. II. 2 hr. PR: C. E. 6 and Summer Camp. A survey of basic range management technique and practices on forest lands, with consideration of range mapping and important forage plants. Mr. Brooks

144. Forest Zoology. II. 3 hr. PR. 2 or Zool. 2 or 3. The relationships of mammals, reptiles, amphibians, and fish to the forest, with emphasis on the ecology and taxonomy of these groups. Mr. Brooks

145. Life Histories of Game Animals. II. 3 hr. PR: Biol. 2 or Zool. 2 or 3. Field and laboratory studies of game-bird and game-mammal life histories, with special reference to management of populations of these species. Mr. Dugan

151. Forest Protection. I. 2 hr. Preventive action, preparation activities, and control of forest fires. Mr. Percival

170, 171, 172, 173. Forestry Problems. I, II. 1 hr. per semester. (4 hr. maximum). Staff

178. Wood Utilization Studies. S. 6 to 14 weeks; no credit. Arrange with instructor before registering. Practical refresher course in wood technology, wood conditioning, and forest products. Mr. Reid

181. Farm Wildlife. II. 2 hr. (Primarily for students in agriculture. Professional forestry students may not take this course for credit.) Fundamental principles of the natural propagation and management of game and other wildlife on the farm, with emphasis on game as a farm crop. Farm fish pond construction and management. Mr. Dugan

183. Farm Woodlot Management. II. 3 hr. (Professional forestry students may not take this course for credit.) Practical silvicultural methods; regulations of the cut in order to obtain continuous production; preparation of plans for profitable management. Mr. Goodspeed

CONSERVATION

101. Conservation of Renewable Natural Resources. S. 2 hr. (Open to any undergraduate student who can qualify for college entrance.) Field and laboratory work in conservation of soil, water, forests, wildlife, and human resources. Ecological studies of individual communities and their conservation problems. Special attention to materials and methods of conservation teaching.
Mr. Brooks and Staff

201. Problems in Conservation. S. 2 hr. (Open to graduate students and to qualified undergraduates of junior or senior rank.) Primarily for teachers of biology, general science, and vocational agriculture and for youth leaders working toward advanced degrees. Field work stressed; daily seminars and phases of conservation.
Mr. Brooks and Staff

205. Investigations in Conservation. S. 2 hr. PR: One of the courses listed above. Individual work on problems of conservation under direction of members of the staff. Students will attend evening seminars and will have opportunities to learn operation of audio-visual equipment.
Mr. Brooks and Staff

The Division of Home Economics

The Division of Home Economics occupies two floors in the north end of Oglebay Hall. Here may be found offices and a small departmental library, in addition to classrooms and laboratories equipped for the teaching of related arts, textiles and clothing, and foods and nutrition. Adjacent to the foods laboratories is a family-service unit consisting of a kitchen, dining room, and reception room. Additional laboratories near Oglebay Hall include University High School, Home Management House, Nursery School, and Cafeteria.

Offerings in the division are designed to meet a wide variety of educational needs. One of the first aims is to help the student understand herself and her potentialities and to encourage her to assume progressively more and more responsibility. She will also be given school and community laboratory experience, under guidance, to help her develop judgment and confidence in meeting situations.

To assist the student in setting goals and in planning experiences which will help her make progress toward these goals, a special advisory system has been set up. Each lower-division student has a faculty adviser who counsels the student as to the courses and assists in solving problems directly or indirectly affecting her progress in the University.

PLAN OF WORK

Work of the first two years is largely cultural, including courses in written and spoken English, literature, and natural and social sciences. In addition, basic work in four areas—foods, clothing, art, and management—acquaints the student with the field of home economics. During the last two years the student is given the opportunity to specialize in one of several vocations. Special courses have been arranged for the student who wishes to stay in college only two years and whose main interest is to prepare for homemaking. She may substitute homemaking courses for those in the basic sciences during the first two years.

VOCATIONS FOR HOME ECONOMISTS

West Virginia graduates are now teaching homemaking at junior high school, senior high school, and college levels; others are supervising the teaching of homemaking. Some may be found serving as home-demonstration agents, girls' club leaders, or commercial demonstrators. A considerable number are engaged in institutional work as hospital dietitians or as managers of tea rooms, cafeterias,

or college dining halls. Others are engaged in scientific research or in allied work as laboratory technicians.

Social service, through either private or government agencies, has claimed the interest of some. Nursery schools also have turned to West Virginia home-economics graduates for supervisors. Department stores have offered a variety of interesting jobs in selling, counseling, interior decoration, and other phases of retailing. One or two graduates with a flair for writing have found work on women's magazines. New fields are constantly opening up, so that the person trained in home economics has an ever-widening choice of vocations.

The division endeavors to keep in touch with agencies which employ home-economics graduates and to assist graduates in finding employment.

REQUIREMENTS FOR DEGREES

The Division of Home Economics offers courses leading to the granting of a B.S. and an A.B. Degree in Home Economics.

BACHELOR OF SCIENCE IN HOME ECONOMICS

The degree of Bachelor of Science in Home Economics will be conferred upon any student who satisfies the entrance requirements and offers 128 hours of college credit and the required grade points including the courses listed below.

General: Eng. rhetoric, literature, speech (no more than 3 hr. in latter), 12 hr.; chemistry, or physical science, 8 hr.; history, psychology, economics, and sociology, 9 hr. (with some work in at least two fields); biological science, 8 hr. (including bacteriology); physical education, 4 hr. (Humanities 1 may be substituted for 4 hr. modern European history; Humanities 2 may be substituted for 4 hr. English literature.) Total, 41 hr.

Home Economics: foods and nutrition, 6 hr.; management, 5 hr.; textiles and clothing, 5 hr.; applied art, 4 hr.; child development, 2 hr.; electives in home economics, 18 hr. Total, 40 hr. General electives, 47 hr. Grand total, 128 hr.

Sufficient electives are allowed to permit the student to satisfy the requirements for a first-class high-school certificate to teach in West Virginia or to fulfill preparatory requirements for apprenticeship, internship, or similar vocational experiences in a variety of fields including those of institution management, hospital dietetics, food and textile research, retailing, extension work, and other government services.

It is suggested that students carry a maximum of 15 hours while in the Home Management House or while doing Student Teaching.

A student who is working for room and board may not carry more than 14 hours until she has demonstrated that she is able to maintain a "C" average.

A.B. DEGREE WITH MAJOR IN HOME ECONOMICS

Students who wish to offer home economics as a major in the College of Arts and Sciences are referred to the information concerning an A.B. Degree with a major in home economics (see page 120).

CLASSIFICATION OF STUDENTS

To be classified as a conditional freshman a student must have credit for at least 15 units of entrance requirements; to be classified as a regular freshman she must fulfill all entrance requirements. To be classified as a junior, 58 hours; as a senior, 92 hours.

SUGGESTED CURRICULUM FOR FIRST TWO YEARS

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	English 3, 4,		Speech 3, 6,	
Chem. 1*	4	Chem. 2	4	or 5	3	or 11	3
(or)		(or)		(or)		Zool. 151	4
Phys. Sci. 1		Phys. Sci. 2		Humanities 2	4	Home Ec. 23	2
(or)		History 2	3	Home Ec. 15	4	Home Ec. 14	
History 1	3	(or)		Home Ec. 12	3	or 114	2
(or)		Humanities 2	4	Biology 1	4	Phys. educ.	1
Humanities 1	4	Home Ec. 2	2	Econ, or sociol.	3	Econ. or Sociol.	3
Home Ec. 1	2	Home Ec. 3	2	Phys. Educ.	1		
Home Ec. 4	2	Phys. educ.	1				
Phys. educ.†	1						

*Prospective dietitians should elect Chemistry 1 and 2.
†Students must elect 4 courses—one from each group: Athletics 9 or 10; Dancing 2, 3, 4, or 15; Individual Activity 6, 7, 8, or 57; and Swimming 1 or 16.

THE CURRICULUM FOR TEACHERS

Students who wish to obtain a high-school certificate to teach home economics must meet requirements of the State Board of Education and of the College of Education. Recommendation for certification is made by the Division of Home Economics to the Dean of the College of Education. For requirements, see the bulletin: *Requirements Applicable to Degrees and to Teacher Certification.*

The head of the Division of Home Economics in the College of Agriculture, Forestry, and Home Economics is also a member of the College of Education and is the adviser for students wishing to meet requirements for a high-school certificate to teach home economics.

West Virginia University has been approved by the State Department of Education and the U.S. Office of Education to train teachers of vocational homemaking.

All students who meet requirements for vocational certificates in home economics as set forth in the bulletin, *Requirements Applicable to Degrees and Certificates,* and who maintain an average of "C" or better in Education 163 and 124 will be recommended for vocational certificates.

Students transferring from other institutions should do so not later than the junior year. A minimum residence of the entire senior year is required, and students with irregular schedules will require a longer time.

MAJOR CURRICULA IN HOME ECONOMICS

The Teaching Major

(See Teacher Training Bulletin for course requirements)

Research in Foods and Nutrition

Recommended: English 13 (3 hr.); English 126 (2 or 3); Phys. 1 and 3 (4); Physics 2 and 4 (4); Zool. 171 (4); Chem. 31 (4); Chem. 105 (4); Chem. 115. (3); Biochem. 239 (4); Math. 3 (4); Math. 4 (2); Math. 5 (4); Math. 107 (4); H. Ec. 101 (3); H. Ec. 211 (2); H. Ec. 234 (3).

Textiles and Retailing

Recommended: Sociol. 1 (3 hr.); Econ. 173 (3); Phys. 1 and 3 (4); H. Ec. 17, 117, or 217 (3 or 4); H. Ec. 212 (2); H. Ec. 233 (2); Chem. 5 or 105 (4); Chem. 6 or 106 (3-5); Chem. 31 or 131 (4); Educ. 221 (2); Art 111 (3); Psych. 132 (3); English 126 (2-3). Selected courses in business administration.

Nutrition and Dietetics

Required: Chem. 31, 131 (4 hr.); Biochem. 239 (4); Zool. 171 (4); H. Ec. 115 (3); H. Ec. 101 (3); H. Ec. 138 (2); H. Ec. 201 (2); *Recommended*: Chem. 105 (4); Chem. 106 or 115 (3); H. Ec. 118 (2); H. Ec. 128 (2); H. Ec. 205 (3); H. Ec. 211 (2); Econ. 173 (3). (Refer to current A.D.A. requirements.)

Design

Recommended: H. E. 17 (2 hr.); H. Ec. 123 (4); H. Ec. 133 (2); H. Ec. 233 (2); Psych. 132 (3); H. Ec. 212 (2); Art 11 or 111 (3); Sociol. 105 (3); Econ. 127 (2); Bus. Adm. 128 (3); Physics 1 and 3 (4).

Extension, Home Service, and Commercial Work

Recommended: H. Ec. 23 (2 hr.); H. Ec. 101 (3); H. Ec. 106 (2); H. Ec. 234 (3); H. Ec. 214 (2); Econ. 173 (3). *Suggested electives:* Speech 11 (3); Speech 120 (3); H. Ec. 14 or 114 (2); H. Ec. 16 or 116 (2); Psych. 1 or 3 (3); Pol. Sci. 5 (3); Jour. 112 (2); Mus. 77 (2); Sociol. 3 or 130 (3); Sociol. 105 (3); Educ. 106 (3); Physics 1 and 3 (4); Selected courses in agriculture.

Child Development

Recommended: H. Ec. 14 or 114 (2 hr.); H. Ec. 101 (3); H. Ec. 121 (2); H. Ec. 106 (2); H. Ec. 206 (2); Psych. 1 (3); Psych. 122 (3); Psych. 234 (3); Libr. Science 103 (3); Sociol. 210 (3); Psych. 224 (3); Speech 250 (3); and 200 (3); Mus. 77 (1).

MASTER'S DEGREE IN HOME ECONOMICS EDUCATION

The Division of Home Economics offers work at the graduate level leading to the degree of Master of Science in Home Economics Education. The summer program is planned to give special attention to needs of graduate students who wish to work towards this degree.

Some courses are offered on a six-weeks basis to meet the needs of those who can spend several weeks on campus. For those who cannot stay for a full session or who prefer to work intensively on one subject at a time, the Division offers workshops of two or three weeks duration. These are arranged consecutively so that a student may elect work in one or several workshops.

It has been possible to obtain the services of outstanding educators to serve as consultants for these workshops. Those interested in the summer program may obtain copies of the Summer Session bulletin or other information by writing to the head of the Division of Home Economics.

SUGGESTED CURRICULUM FOR THE TWO-YEAR COURSE

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	Eng. 3, 4, or 5	3-4	Speech 3,	
History 1	3	History 2	3	(or)		6, or 11	3
(or)		Home Ec. 3	3	Humanities 2	4	Home Ec. 23	2
Humanities 1	4	Home Ec. 2	2	Home Ec. 15	4	Home Ec. 14 or	
Home Ec. 1	2	Phys. educ.	1	Home Ec. 12	3	114	2
Home Ec. 4	2			Phys. educ.	1	Phys. educ.	1
Phys. educ.	1			Econ. or sociol.		Physiology 51	4
				or psychology	3		
	11-12		11-12		15-16		12
Electives	4-6	Electives	4-6	Electives	1-3	Electives	4-6

SUGGESTED ELECTIVES

Freshmen: Music 77 (2 hr.), Art 12 (3), language (3); Psychology 1 (3).
Sophomore: Home Econ. 17 (2), 180 (2), 115 (3).

ELECTIVES FOR STUDENTS OUTSIDE THE DIVISION

Students in other colleges wishing to elect courses in home economics will find a number of courses available. The following courses are suggested: Home Economics 1, 2, 3, 4, 15, 115, 12, 23, 14, or 114, 32 or 132, 17, 13 or 113, 133, and 16 or 116.

COURSES OF INSTRUCTION IN HOME ECONOMICS

Professor Noer and Staff

(1) Students in the College of Arts and Sciences who major in home economics must meet the requirements in that college and also the departmental requirements as outlined in this *Catalog*.

(2) Students who wish to obtain the high-school certificate to teach home economics must meet the requirements of the State Board of Education, the College of Education, and the Division of Home Economics. The B.S.H.E. degree in the College of Agriculture, Forestry, and Home Economics is planned to allow sufficient electives to meet these requirements.

(3) Students from other colleges who wish to elect home economics courses without meeting the Science requirements may take Home Economics 1, 2, 3, 4, 23, 14 or 114, 102, 32 or 132, 112, 13 or 113, 123, 133, 106, and 206; others by consent of instructor.

(4) Graduate students are limited to 6 hr. of "Problems" courses.

FOODS AND NUTRITION

Assistant Professors Hurst and Chalmers; Instructor Amick.

1. Sec. 1. Elementary Nutrition. I, II. 2 hr. Essentials of adequate diet; application with particular reference to needs of college students. Miss Hurst

1. Sec. 2. Elementary Nutrition. I, II. 2 hr. Advanced section of H.E. 1 for those who qualify on basis of placement test. Miss Hurst

11 or 111. Requirements for Normal Human Nutrition. I, II. 3 hr. Lecture and demonstration. Two 2-hour and one 1-hour classes per week. For students in other colleges. Miss Hurst

15. Food Selection and Preparation. I. II. 4 hr. PR: Chem. 2 or Phys. Sci. 2 and H.E. 1, or consent. Two lectures and two laboratories. Chemical and physical bases for food preparation with enough experimental work to give an understanding of reasons for recommended procedures in preparation of food products of high quality. Demonstration, discussion, and laboratory practice. Miss Amick

21. Nutrition and Foods for Nurses. I. 3 hr. Fundamental principles of human nutrition and of food preparation. Content of course is that given in "Teaching Dietetics to Student Nurses," by American Dietetic Association. Miss Hurst

101. Nutrition. I. 3 hr. PR: H.E. 15 or consent. Two lectures and 1 laboratory. Food needs as affected by such factors as age, sex, and activity; nutritive value of common foods; planning of adequate diets at different cost levels. Miss Hurst

115. Meal Planning, Preparation, and Service. I, II. 3 hr. PR: H.E. 15 or consent. One lecture and one 3-hour laboratory. Problems in selection and purchase of foods; planning, preparing, and serving of meals, including wise use of time and energy. Miss Amick

121. Nutrition Work with Children. II. 3 hr. PR: H.E. 15, 115, 101. Problems involved in feeding children optimum diets. Opportunity for students (1) to prepare noon meals for University Nursery School children; (2) to observe a number of hot-lunch programs in and near Morgantown. Miss Hurst

125. Foods for Special Occasions. 2 hr. PR: H.E. 15 or consent. Preparation of special foods for parties, dinners, teas, and other social functions, with laboratory experience in organization and management of food service for such occasions. Offered alternate years 1952-54-56. Miss Amick

181. Problems in Nutrition. I, II. 1-4 hr. PR: Consent. Staff

185. Problems in Foods. I, II. 1-4 hr. PR: Consent. Staff

201. Diet in Disease. II. 2 hr. PR: H.E. 101, Zoology 151, Chem. 131. Adaptations of normal diet for diseases whose prevention or treatment is largely influenced by diet. Offered in alternate years, 1952-54-56. Miss Hurst

205. Experimental Cookery. I. 3 hr. PR: H.E. 15, Chem. 131. 1 hr. lecture, one 2 hr. lab., and one 3 hr. lab. Utensils, ingredients, temperature, manipulation, and cooking methods as they affect quality of cooked products. Offered in alternate years, 1953-55-57. Miss Amick

211. Readings in Nutrition. II. 2 hr. PR: H.E. 1, 15, 107. Reviews of current literature and of present research. Topics depend upon needs and interests of class members. Miss Hurst

215. Food Preservation. 3 hr. PR: H.E. 15 or equivalent and (or conc.) Bact. 141. Fundamental principles involved in preservation of foods by canning, drying, fermentation, curing, and freezing as applied in the home and in centers equipped for quantity work. 1 lecture, two 3-hr. labs. Miss Amick

221. Community Nutrition Problems. I. 2 hr. PR: H.E. 101 or consent. Two hours of lectures plus fieldwork. Includes consideration of organizations and agencies through which these problems may be solved. Miss Hurst

281. Problems in Nutrition. I, II. 1-4 hr. PR: Consent. Staff

285. Problems in Foods. I, II. 1-4 hr. PR: Consent. Staff

INSTITUTION MANAGEMENT

Assistant Professor Price

108. Quantity Cookery. I, II. 3 hr. PR: H.E. 15, 101. One lecture, two 3-hour laboratories arranged. Application of principles to preparation of food in large quantity. Use of standardized formulas, calculation of costs, and use of institution equipment. Cafeteria used as laboratory. Miss Price

118. Institution Accounting. 2 hr. PR: H.E. 108. Current procedures in accounting for institutions. Preparation of budgets, food-control records, financial statements, and reports. Offered in alternate years, 1953-55-57. Miss Price

128. Institution Buying. 2 hr. PR: H.E. 108. Producing areas, distribution of food products, specifications, storage, and food practices in quantity buying. Observation in local wholesale markets, warehouses, and storage units. Offered in alternate years, 1952-54-56. Miss Price

138. Institution Organization and Management. 2 hr. PR: H.E. 108. Principles of organization and management of institutions of various types.

148. Laboratory Practice in Institution Management. I, II. 2 hr. PR: H.E. 108, 138, and consent. (Arranged). Experience under supervision in planning, preparing, and serving food in an institution. Selection of place and type of experience to be determined by needs of students.

188. Problems in Institution Management. I, II. 1-4 hr. PR: Consent.

288. Problems in Institution Management. I, II. 1-4 hr. PR: Consent.

TEXTILES AND CLOTHING

Professor Noer; Assistant Professors Dietrich and Stoflet

2. Elementary Clothing. I, II. 2 hr. Problems in selection and construction of clothing. For freshman and others who do not pass placement test. Misses Stoflet and Noer

12. Intermediate Clothing. I, II. 3 hr. PR: H.E. 2 or exemption of H.E. 2 by placement test. Particular emphasis on high standards of workmanship and evaluation of work and progress. As students develop skill they will be expected to work with increasing independence. Miss Stoflet

17. Textiles. I, II. 3 hr. Lecture and laboratory combined. Textile fibers and fabrics studied with view to their use in dress and in the home. Characteristics of the major fibers and their suitability to various uses. Study of standard and novelty materials with emphasis on appropriate use and care. Miss Dietrich

32 or 132. Clothing Techniques. II. 2 hr. Not open to home economics majors. Techniques for simple garment construction, remodeling, alteration, and repair. Problems adapted to needs of individual students. Especially planned for Arts students and young homemakers. Misses Stoflet and Dietrich

102. Clothing Selection. I, II. 2 hr. PR: H.E. 3, H.E. 2, or consent. Two lectures. Selection of clothing for whole family from viewpoint of design, color, and economy. Clothing inventories and buying plans. Miss Stoflet

112. Selection and Construction of Clothing. I, II. 2 hr. PR: H.E. 3, 12, or consent. Two laboratories. Construction of wool and rayon garments. Pattern alteration and adaption. Making over clothing. Misses Stoflet and Dietrich

117. Textile Buying. II. 2 hr. PR: H.E. 17. Lecture and laboratory combined. Buying of textiles for all types of clothing and for household. At least one field trip required. Miss Dietrich

182. Problems in Clothing Construction. I, II. 1-4 hr. PR: Consent. Staff

212. Advanced Clothing Construction. II. 2 hr. PR: H.E. 17, 122. Commercial methods of coat and suit making adapted for home use. Problems of fitting and pattern adaptation, using the dress form. Speed methods and perfection

217. Readings in Textiles. 2 hr. PR: H.E. 17. Review and discussion of current literature reporting recent research in field. Staff

222. Tailoring. II. 3 hr. PR: H.E. 112. Problems in teaching tailoring, including sources of help and new techniques. Emphasis on methods of helping students evaluate their own progress. Opportunity for laboratory experience in cutting, fitting, construction, and pressing of tailored garments Miss Stoflet

282. Problems in Clothing. I, II. 1-4 hr. Consent. Staff

187, 287. Problems in Textiles. I, II. 1-4 hr. Consent. Staff

APPLIED ART

Assistant Professors Palmer and Stoflet

3. Art Applied to Personal Problems. I, II. 2 hr. Principles of design and color applied so as to help college students meet problems of daily living. Problems may include room arrangement, clothing, design, etc. Miss Palmer

13. or 113. House Decoration. II. 3 hr. For nonmajors. Two lectures and one laboratory. Materials and furnishings that go into decoration and furnishing a home, with emphasis on cost, buying, and reconditioning. Miss Palmer

23. Present-day Housing. I, II. 2 hr. PR: H.E. 3 or consent. Factors to be considered in providing housing for families at different income levels. Special attention to low-cost housing. Factors to be considered in selecting a home and furnishings for families of different income levels. Laboratory practice in improving rooms, apartments, and houses, using materials commonly found in rural communities and small towns. Miss Palmer

123. Home Planning and Furnishing. I, II. 4 hr. PR: H.E. 23. Two lectures and 2 laboratories. Fundamentals of wise planning to meet family needs; understanding of house structure and home needs. Discussions on home decorating based on various income levels and suited to various communities and needs. Miss Palmer

133. Home Crafts. I, II. 2 hr. Two laboratories. Experience in simple crafts, using such materials as leather, plastic, metal, paper, thread, and fabric for creation of useful and beautiful objects. Equipment and materials used are those readily available in home, school, and camp situations. Miss Palmer

183. Problems in Related Art. I, II. 1-4 hr. Consent. Staff

233. Costume Design. I. 2 hr. PR: H.E. 3, 12, 117. Techniques of figure and fashion drawing. Problems in designing costumes and ensembles for individuals of various types and ages. Miss Stoflet

283. Problems in Related Art. I. II, 1-4 hr. Consent. Staff

HEALTH AND CHILD CARE

Associate Professor Brown and Staff

16 or 116. Home Nursing. II. 2 hr. 1 lecture, one 2-hour laboratory. Practices to promote family health and caring for minor illnesses. Staff

106. Child Development. I, II. 3 hr. PR: Psych. 1 or 3 or Ed. 55 or 56, H.E. 101. Two lectures. Child from prenatal period to pre-adolescence. University Nursery School used for observing pre-school children. Each girl spends 3 hours a week observing and assisting. Staff

186. Problems in Child Development. I, II. 1-4 hr. Consent. Staff

206. Observation and Participation in Nursery School. I, II. 1-2 hr. PR: H.E. 106. Directed experience in working with children in a nursery-school situation. Laboratory and conference. Staff

266. Needs of Adolescents. 3 hr. A study of adolescent needs as met by the home with contributions of other agencies such as church, school, and youth groups. Physical, social, and integrative needs will be considered from the standpoint of needs of all family members as well as the individual. Miss Brown

286 Problems in Child Development. I, II. 1-4 hr. Consent. Staff

HOME MANAGEMENT

Assistant Professor STOFLET; Instructors JONES and PLONK

4. ELEMENTARY MANAGEMENT. I, II. 2 hr. Simple problems in management of time, energy, and other resources. Practical application to problems of individual members of class. Misses Stoflet and Plonk

14 or 114. MANAGEMENT OF FAMILY LIVING. II. 2 hr. PR: H.E. 4 or consent. Influence of home conditions on families and family members. In considering ways of meeting every day problems of families, an attempt will be made to apply findings of science and techniques of management in such way as to help families achieve satisfaction in living. Mrs. Jones

104. NUTRITION AND HOME MANAGEMENT. II. 3 hr. Planned to meet needs of social-work majors. Not open to students majoring in home economics. Miss Hurst and Mrs. Jones

124. DEMONSTRATION TECHNIQUES. II. 2 hr. PR: Minimum of 4 hours in each of 4 areas of home economics, and consent. Lecture demonstration as means of presenting home economics materials to groups. Development and presentation of demonstrations suitable for secondary schools and use with adult groups. Miss Plonk

184. PROBLEMS IN HOME MANAGEMENT. I, II. 1-4 hr. PR: Consent. Staff

214. ECONOMIC PROBLEMS OF THE HOME. I, II. 3 hr. PR: 30 hours of H.E., Econ 1. Economic problems of family. Standard of living, budgeting, and account keeping, buying problems. Value of household production. Providing for future. Miss Plonk

224. PRINCIPLES OF HOME MANAGEMENT. 2 hr. Time and energy management, house care, pest control, buying and storing foods, use and care of home equipment, entertaining, money management, simple record keeping, and infant care. Junior standing preceding or parallel with H.E. 234. Miss Plonk

234. HOME-MANAGEMENT LABORATORY. I, II. 3 hr. PR: H.E. 1, 114, 115. Arranged. Emphasis on satisfying family life and social relationships. Approximately 5 weeks of home residence, and 1 hour of discussion each week throughout semester. H.E. 224 should be taken prior to or parallel with H.E. 234. Staff

254. HOUSEHOLD EQUIPMENT. 3 hr. PR: Senior Standing. Selection, arrangement, use, and care of equipment for various situations and for different income levels. Laboratory and discussion. Miss Plonk

284. PROBLEMS IN HOME MANAGEMENT. I, II. 1-4 hr. PR: Consent. Staff

HOME ECONOMICS EDUCATION

Professor NOER; Associate Professor BROWN; Instructors HEADLEE, ROBERTS and BOLYARD

Ed. 163. MATERIALS AND METHODS IN HOME ECONOMICS. I, II. 2 hr. Mrs. Roberts

Ed. 262. VOCATIONAL HOME ECONOMICS IN SECONDARY SCHOOLS. I, II. 2 hr. PR: 7 hours of Education and 30 hours in home economics. Miss Noer

209. EVALUATION IN HOME ECONOMICS. 3 hr. PR: 30 hours of home economics, 7 hours of Education. Experience in selecting, devising, and using evaluation devices for appraising student progress toward desired goals in home economics education. Miss Brown

219. ADULT EDUCATION IN HOMEMAKING. I. 3 hr. PR: 30 hours of home economics and 7 hours of Education. Current trends and present activities. Organization of adult classes; development of unit outlines; consideration of teaching methods; illustrative material and bibliography. Miss Stoflet

229. Materials for Teaching Home Economics. II. 2 hr. PR: 30 hours of home economics and 7 hours of Education. Offered in alternate years 1950-52-54. Staff

249. History of Home Economics. 1 hr. One lecture. Miss Noer

309. Research Methods. I, II, S. 2 hr. Adaptation of research techniques to problems in home economics. For students writing problems or thesis. Miss Brown

319. Home Economics Curriculum. 3 hr. PR: Experience in teaching home economics and consent. Selection and organization of learning experiences in home economics. Practices and techniques currently used for curriculum planning and reconstruction. Miss Brown

329. Supervision in Home Economics. 2 hr. PR: Teaching experience and consent. Designed for home economics teachers preparing to serve as supervising teachers in "off-campus" training centers. Function of supervision and organization of supervised teaching program. Techniques for helping students in training for teaching homemaking. Miss Brown

389. Problems in Home Economics Education. I, II. 1-4 hr. PR: Consent. Staff

The College of Arts and Sciences

GENERAL INFORMATION

COLLEGE OF ARTS AND SCIENCES

Organization and Purpose

The College of Arts and Sciences includes a lower division and an upper division. The lower division consists of work of the first and second years, and the upper division consists of work of the third and fourth years.

Instruction in the College of Arts and Sciences is administered through the following departments:

Art; biology; chemistry; classics; economics; English language and literature; geology, mineralogy, and geography; Germanic languages and literatures; history; home economics; library science; mathematics; nursing education; philosophy and psychology; physics; political science; Romance languages and literatures; sociology; social work; speech; and the Interdepartmental Program of Integrated Studies: humanities, social science, biological sciences, physical sciences, and communication.

MAIN OBJECTIVES

The curriculum of the College of Arts and Sciences has certain main objectives.

1. *General Culture.* Work of the lower division is intended to complete what is usually termed "a general education." It rounds out the program of studies pursued in high school and promotes full development of the student (1) as an individual and (2) as a member of society. Ideally, the student should undergo a well-proportioned development intellectually, spiritually, physically, and emotionally. The end of such development should be an inner balance or stability on the basis of which further growth can take place. Development of the individual as a member of society is to be measured in terms of his or her usefulness and sense of responsibility to the social order. The student should develop the capacity for intellectual participation as a citizen in the community, state, country, and world. A general education should, therefore, provide for all students a meaningful experience appropriate to the individual and social needs which all citizens have in common as members of a free society in the contemporary world.

2. *Specific Attributes.* Most of the attributes of a general education can be placed in one of three categories: (1) attitudes, (2) areas of knowledge, and (3) skills.

The following attitudes should be attained as the result of a general education:

(1) An attitude of tolerance or open-mindedness, characterized by a cosmopolitan outlook that will enable the student to see beyond the limits of his own profession, his own economic status, and his own country;

(2) An attitude of truth-seeking characterized by scientific objectivity and motivated by intellectual curiosity;

(3) An attitude of intelligent appreciation towards nature and the arts that will, as far as the student's endowments will permit, help him in his aesthetic and ethical choices;

(4) An attitude of dispassionate self-appraisal, based on an understanding of his own nature and characterized by an awareness of his own mental strengths and weaknesses.

The areas of knowledge which should be the common possession of educated persons may be conveniently grouped in two divisions:

(1) A knowledge of man as a social and intellectual being, of his place in contemporary civilization, and of that civilization's place in the history of man;

(2) A knowledge of man as an organism and of man in his relation, direct or indirect, to the biological and physical environment in which he lives.

Three basic skills are regarded as indispensable to all educated persons:

(1) That of self-expression or communication, involving writing, speaking, reading, and listening;
(2) That of calculation, i. e., a knowledge of, and some skill in, basic mathematics.
(3) A familiarity with at least one foreign language, not only as a useful skill, but also as a means of promoting tolerance and sympathetic understanding of peoples who do not speak our language.

COURSES RECOMMENDED

Two types of courses are recommended to all students in the lower division as common means for fostering the attributes of mind and character which a general education should develop in the student:

(1) Courses for the promotion of basic skills: (a) calculation and (b) communication;
(2) General introductory courses for the elementary but organically integrated study of four fields of human knowledge: (a) Biological Science, (b) Social Science, (c) Physical Science, and (d) Humanities.

OPPORTUNITY FOR SPECIALIZATION

Work of the upper division is intended to provide intensive study in one or two fields of knowledge. It is based on the belief that an educated man or woman should not only know the fundamentals of several branches of study but should have a rather thorough knowledge of some selected field. In the upper division therefore, the student concentrates on a major and one or two minors. The curriculum is sufficiently flexible, however, to meet the needs and tastes of individual students without at the same time exposing the student to disadvantages of a free elective system.

SPECIAL PROVISIONS FOR THE JUNIOR CERTIFICATE

Experience has shown that students whose average in high-school subjects was below 75 per cent, or students who ranked in the lowest one-fourth of the high-school graduating class, probably will not succeed in the regular college curriculum. Nevertheless, such students may, by wise selection of studies, profitably spend one or two years in college. Other students for financial or other reasons may not be able to attend college for more than one or two years. It is believed that students in either group may spend their time more profitably taking courses in which they are particularly interested from a cultural or vocational point of view than by following the curriculum leading to the A.B. Degree. Students who are not candidates for the A.B. Degree but who earn 64 hours of college credit and 128 grade points, including general University requirements, in residence in this college will be awarded the Junior Certificate of the College of Arts and Sciences.

The Major Subject

In the upper division the student concentrates on a major and one or two minor subjects selected from the following list of subjects:

Art
Botany
Chemistry
Classics
Economics
English
French
Geology
German
History
Home Economics
Library Science
Mathematics
Nursing Education
Philosophy
Physics
Political Science
Psychology
Social Work
Sociology
Spanish
Speech
Zoology

Classification of Students

To be classified as a freshman in the College of Arts and Sciences a student must have credit for at least 15 units of entrance requirements; to be classified as a sophomore he must have fulfilled all entrance requirements and have credit for 25 hours of college work; as a junior, 58 hours; as a senior, 92 hours.

Advisers

Lower Division. Each student in the lower division is assigned to an adviser who will assist in registration and who will have general supervision over the work of the student. Electives are chosen and changes in the program are made with approval of the adviser. Students are urged to confer with advisers in respect to any difficulties or maladjustments in college life.

Upper Division. For transfer to the upper division a student must have completed a minimum of 58 hours and have maintained a grade-point average of 2 on all work for which he received grades (except "W" and "WP").

Each student in the upper division is assigned to an adviser of the department to which the major subject belongs. The program of study and all changes in class assignments must be approved by the adviser.

STANDING COMMITTEES:

Scholarship: Messrs. Ashburn (chairman), B. Anderson, O. Cross, G. A. Hall, Mockler, Somers, and Welden (secretary).

Instructional Policies and Practices: Messrs. Collett (chairman), Ashburn, Frasure, Fridley, Kallsen, Summers, and Townsend.

Curriculum Committee on General Education: Messrs. Crocker (chairman), Bennett, Curtis, Gibbard, Lazzell, Manning, Spiker, and Vest.

REQUIREMENTS FOR DEGREES

GENERAL REQUIREMENTS FOR ALL DEGREES

Foreign Language. Fewer than 6 hours in an ancient or modern language will not be counted towards any degree, diploma, or certificate in this College unless work in the same language has been offered for entrance.

English. Each undergraduate who begins his college work after June 1, 1952, must pass a proficiency examination in English after the beginning of his junior year in order to qualify for graduation. He shall take the examination during the first semester of his junior year, and if not declared proficient, shall repeat the examination as many times as necessary.

Electives. At least 6 hours must be taken in each subject as an elective, but no more than 9 hours in isolated courses of less than 6 hours each, selected with the approval of the adviser, may be offered.

In addition to regular elective work in the College of Arts and Sciences which is offered by the faculties in other colleges, work not to exceed 15 hours in the College of Law, College of Agriculture,[15] College of Commerce, College of Engineering and School of Mines,[16] School of Music,[17] School of Physical Education and Athletics,[18] School of Journalism, or 12 hours of upper-division work in Military or Air Science and Tactics, or 20 hours in the College of Education, may be included in the list of elective credits offered to students in the College of Arts and Sciences. The total number of hours elected from other colleges shall not, however, exceed 24 hours in all.

The course in general biochemistry (Biochemistry 239) is available (without additional fees) in the School of Medicine.

Major Subject. The maximum amount of credit allowed in any one department is ordinarily 40 hours. Exceptional cases involving extension of hours in the major must have the previous approval of the Scholarship Committee.

Grade Points. Students who fail to maintain a minimum grade-point average of 2.0 on at least 12 hours of work for each of two semesters in succession shall be required to repeat courses in which they receive grades of "D" and establish the required average or be suspended because of low grades.

Grade points are computed only on grades earned at West Virginia University (including Potomac State School of West Virginia University). To be eligible for graduation a student must have an average of "C" or an average of two grade points on all work for which he received grades (except "W" and "WP").

ASSOCIATE IN ARTS DEGREE

The degree of Associate in Arts is conferred on the student who completes Option B of the regular course. The core of this program is in four introductory general courses: Humanities, Social Science, Biological Sciences, and Physical Sciences.

Students enrolled in the program will normally complete it in the first two years by taking any three of the general courses. Students who carry a reduced load or who wish to meet specific departmental requirements with other introductory courses may extend completion of the program beyond the two-year period with no reduction in grade points.

Students who complete satisfactorily three area courses, as well as the regular requirements in a foreign language, English composition, physical education service program, and military (men), will be considered to have met not only the general requirements of the University but also general (i.e., nondepartmental) requirements of the College of Arts and Sciences. Students who meet these requirements and have 64 hours of college credit and a grade-point average of 2.0 on all work in residence in the College of Arts and Sciences will be entitled to the two-year degree of Associate in Arts.

BACHELOR OF ARTS DEGREE

The Bachelor of Arts Degree in the College of Arts and Sciences is conferred upon any student who complies with the general regulations of the University concerning degrees, satisfies all entrance, college, and departmental requirements, and completes any one of the following courses of study:

I. Regular course (128 hours)
II. Premedical, Predental, and Pre-Veterinary courses (128 hours)
III. Combined courses:
  (a) Arts and Law (124 hours)
  (b) Arts and Medicine or Dentistry (128 hours)

Students transferring to West Virginia University from other institutions should ordinarily do so not later than the beginning of the third year. Such students must meet all the requirements of the lower division. All deficiencies must be met as soon as possible after admission to this College, whereupon such students may register regularly in the upper division.

Maximum and Minimum Work. The maximum number of hours per semester for which a student may register is 18; the minimum 12. A student in the upper division may, however, with the approval of his adviser, register for a maximum of 20 hours per semester without petitioning the Committee on Scholarship.

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[15]In addition to the 15 hours, the following courses in agriculture are regular electives in the College of Arts and Sciences: Farm Economics 131 and all courses in entomology, genetics, and plant pathology.

[16]The engineering and mining electives include Chemical Engineering 186, 205, 207, 238, 250, 251; Civil Engineering 1, 2, 3, 5, 6, 110 and 115; Electrical Engineering 100, 102, 103, 110; Mechanical Engineering 20, 25, 26, 29, and 221; Mechanics 101, 102, 103 and 104; and Mining Engineering 106, 202, 203, and 204.

[17]The music electives include Theory of Music 1, 2, 3, 4, 77, 78, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 180, 182, 183, 240, 241, and 281; Ensemble 153, 154,

I. Regular Course (128 Hours)

Option A:

LOWER-DIVISION CURRICULUM

(a) *General University Requirements.*
Military or Air science[19]—8 hours.
Physical education (men)[20]—2 hours.
Physical education (women)[20]—4 hours.

(b) *Science.* At least 8 hours of a laboratory science chosen from the following list: biology, botany, chemistry, geology, physical science, physics, psychology, and zoology.

(c) *Foreign Language.* To be eligible for graduation a student must have completed twelve semester hours in a foreign language in college or two units for entrance and six hours beyond courses 1 and 2 in the same language in college.

(d) *English Composition.* Ordinarily 6 hours of English composition (English 1 and 2) will be required of all freshmen. In case a freshman is not qualified to meet the requirements in English 1, as shown by placement or other tests, he (or she) will be assigned to English O, which carries 3 hours of University credit. Upon the successful completion of the work in English O the student will register for the regular work in English 1.

(e) *Additional.* At least 6 hours in each of three of the following:
(1) Art.
(2) Economics
(3) English (additional to d).
(4) Foreign language (other than c).
(5) General introductory courses.
(6) History.
(7) Home economics.
(8) Mathematics.
(9) Philosophy and psychology.
(10) Political science.
(11) Science (other than b).
(12) Sociology.
(13) Speech.

(f) *Electives,* under the supervision of the adviser, to make a total of 64 hours. Ordinarily freshmen should register for required courses. Electives should be used in the second year chiefly in meeting the preliminary requirements of the departments in which students expect to do the work of the major (or minors) in the upper division.

Option B: General Course Program of Integrated Studies (64 *Hours*)

A sample schedule of courses for students enrolled in the whole program of Intgerated Studies and planning to complete it in two years follows on page 122.

155, and 156; classes in orchestra instruments 191, 192, 193, 194, 195, and 196. Men's Glee Club, Women's Glee Club, and University and Community Orchestra; and piano or voice or violin or pipe organ or band and orchestra instruments.

[18]The electives in physical education are P.E. 77, 151, 67, 278, and Safety Education 281.

[19]Military or air science is required of all male students except those who at the time of matriculation are 23 years of age or have completed no less than 58 hours of work, and all who have credit for 8 hours of military or air science or 1 unit of entrance credit in military academy. Students must register for military science upon their entrance into the University and continue in the course until the full requirement has been met or until a regular exemption card is filed in the Registrar's office.

[20]Two hours of physical education service program for men, to be taken during the first year of residence, and four hours of physical education service program for women, to be taken during the first and second years in residence, are required for graduation of students presenting fewer than 58 semester hours, unless previous credit has been allowed.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Humanities 1	4	Humanities 2	4
Biological or Physical Sciences 1	4	Biological or Physical Sciences 2	4
Communication 1[21] or English 1	3	Communication 2[21] or English 2	3
Foreign Language	3	Foreign Language	3
Physical education	1	Physical Education	1
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2
Electives	1-3	Electives	1-3
Maximum hours allowed	18		18

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Social Science 1	4	Social Science 2	4
Physical education (women)	1	Physical education (women)	1
Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Electives[22]	11-13	Electives[22]	11-13
Maximum hours allowed	18		18

UPPER-DIVISION CURRICULUM

1. *A major sequence* of 18 to 24 hours of upper-division courses, preceded by the proper lower-division courses prescribed as preparation for the major. This work should represent a coherent and progressive sequence of courses as outlined in the departmental announcements. The major subject will be selected when the student registers in the upper-division, but the student must plan the work in the lower division in such a way as will meet the departmental requirements for the major and minor.
2. *A minor sequence* of 9 to 12 hours of upper-division courses, preceded by proper lower-division courses, in some department closely related to the major department. At the option of the major department, a second minor of 6 hours may be required in a second department closely related to the major department.
3. *Electives,* under supervision of the departmental adviser, to make a total of 128 hours. At least 52 of 64 hours in the upper division must be selected from the upper-division courses. A departmental adviser may permit a student in the upper-division to elect lower-division courses to an amount not exceeding 12 hours when such action will be an advantage to the student in connection with the major or minor sequence.

II. Premedical, Predental, and Pre-Veterinary Courses (128 Hours)

The following sequence of courses is worked out for the general guidance of students who are preparing for the study of Medicine, Dentistry, Pre-Veterinary Medicine, and the related professions. All of the required subjects are included. While the pre-professional student is meeting the entrance requirements of professional schools, committees on admissions of professional schools prefer that he use his elective hours to secure a broad, general training rather than to secure a large number of credits in any one special field. Leading medical and dental educators in the United States today also are definitely in favor of a good general training rather than extensive specialization in the so-called premedical sciences.

It is recommended that all students plan to complete the requirements for the Bachelor of Arts Degree.

[21]Students enrolled in the program of Integrated Studies normally will take Communication 1 and 2 (reading, writing, listening, speaking) instead of English 1 and 2.

Recommended Curriculum for A.B. Degree in Premedicine or Predentistry.

FIRST YEAR

First Sem.	*Hr*	*Second Sem.*	*Hr.*
English 1	3	English 2	3
Chemistry 1	4	Chemistry 2	4
Zoology 1	4	Zoology 2	4
Mathematics 2 or 3	3	Mathematics 4 or 10	3
Physical Education	1	Physical Education	1
Mil. or Air 1	2	Mil. or Air 2	2
	17		17

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
English 3 or 5	3	English 4 or 6	3
Physics 1 and 3	4	Physics 2 and 4	4
Chemistry 5 or 15 or 63	3-4	Chemistry 15 or elective	3-4
French or German	3	French or German	3
Psychology 1 or Genetics 11 or elective	2-3	Psychology 1 or Genetics 11 or elective	2-3
Mil. or Air 3	2	Mil. or Air 4	2
Physical Education (Women)	1	Physical Education (Women)	1
Maximum hours allowed	18	Maximum hours allowed	18

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
French or German	3	French or German	3
Chemistry 5 or 15 or 63 or 233 or elective	3-6	Chemistry 15 or 233 or 238 or elective	3-6
Zoology 231 or elective	5	Zoology 232 or 255 or elective	4-5
Nonscience electives	3-6	Nonscience electives	3-6
Maximum hours allowed	19	Maximum hours allowed	19

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chemistry 233 or elective	4-5	Chemistry 238 or elective	4-5
Zoology 231 or elective	5	Zoology 232 or 255 or elective	4-5
Electives	6-10	Electives	6-11
Maximum hours allowed	19	Maximum hours allowed	19

Many medical schools recommend that Chemistry 233 and 238 and Zoology 231 be taken the year preceding entrance to medical school.

Candidates for the A.B. Degree in Premedicine or Predentistry should complete the following minimum number of credit hours in the subjects listed. English, 12 hr; French or German, 12 hr.; Mathematics, 6 hr.; Chemistry, 23 hr. (must in-

[22]Students who do not present two units in a foreign language for entrance and who complete six hours in the same language in college must use three hours of electives here to complete the language requirements. Students who expect to complete the four-year course for a baccalaureate degree should use electives to complete prerequisites for a major or minor field while in the lower division

clude Chemistry 1, 2, 15, 63, 233, 238); Zoology, 17 hr. (must include Zoology 1, 2, 231, and 232 or 255); Physics, 8 hr.; Psychology, 3 hr.; Nonscience group, 30 hr. (to be selected from Art, English, Humanities, Economics, Sociology, History, Political Science, Philosophy, Speech, Foreign language, Education, Latin, Music).

Some medical schools require both French and German. If both are taken, those hours in excess of 12 may be counted toward nonscience group.

Courses to complete the 128 hours required for graduation may be selected from Chemistry, Mathematics, nonscience group, Physics, Psychology, Zoology.

Courses offered as lower division courses in other institutions may not be transferred and offered as substitutes for upper-division courses of a similar title required in the above curriculum.

PRE-VETERINARY MEDICINE (128 HOURS)

A course of study leading to the Bachelor of Arts Degree in Premedicine.

FIRST YEAR

Same courses as recommended in the regular curriculum for the Bachelor of Arts Degree in Premedicine or Predentistry preceding this outline.

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Physics 1 and 3	4	Physics 2 and 4	4
Chemistry 5 or 63	4	Chemistry 15	3
Animal Husbandry 11	3	Dairy Husbandry 12	3
Military or Air Sci. 3	2	Poultry Husbandry 1	4
Electives	3-4	Military or Air Sci. 4	2
		Electives	2
Maximum hours allowed	16-18		18

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chemistry 131 or 233	4	Biochemistry 139 or Chemistry 238	4
Genetics 221	2	Bacteriology 141	4
Dairy Husbandry 111	3	French or German	3
French or German	3	Electives	6
Electives	6		
	18		17

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Zoology 231	5	French or German	3
Biology 273	4	Biology 274	4
French or German	3	Electives as needed to complete the 128 hours, minimum for graduation.	
Electives	6		
	18		

A minimum of 24 hours should be selected from the following fields: History, Foreign Languages, English, Political Science, Speech, Psychology, Economics, Sociology, Philosophy. Additional courses in the sciences or appropriate courses in Agriculture may be chosen to complete the required number of hours for graduation. The student may alter the above curriculum, to meet the requirements of specific schools, with approval of his adviser and the Dean of the College of Arts and Sciences.

III. Combined Courses

(a). Arts and Law (124 hours)

Three years (96 hours) in College of Arts and Sciences, and one year (28 hours) in College of Law

A pre-legal course has two main objectives. The first is to enable the student to acquire general cultural background, which is in harmony with the chief purpose of the College of Arts and Sciences. The second is to help the student to secure a more specialized background for the legal course to follow.

In nearly all cases these objectives can be attained more effectively by taking the regular four-year Arts and Sciences course, during the last two years of which the student may choose his major and minor with particular reference to his legal work. In addition to securing the Bachelor of Arts Degree, it will qualify him for admission to almost any law school.

To enable students to receive the degree of Bachelor of Arts and Bachelor of Laws in a shorter period of time, a special course has been arranged by which the student may complete the required studies in the College of Arts and Sciences in three years and, after passing the entire first year of work in the College of Law, be awarded the degree of Bachelor of Arts. This course satisfies the entrance requirements to the College of Law, but permits freedom in choosing electives. The student should confer with the pre-law adviser as soon as he enters the University. The following schedule is suggested as being adapted to the above course:

FIRST YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3
Botany, chemistry psychol., geology, physics, zoology, physical science, or biology	4	Botany, chemistry, psychol., geology, physics, zoology, physical science, or biology	4
French, German or Latin[23]	3	French, German, or Latin[23]	3
History 1 or	3	History 2 or	3
Humanities 1	4	Humanities 2	4
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2
Phys. educ.	1	Phys. educ. 2	1
Max. hr.	16-17	Max. hr.	16-17

SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*
English 9	3	English 10	3
Language	3	Language	3
History 52	2	History 53	3
Polit. Sci. 5	3	Polit. Sci. 106	3
Electives (lower-division courses should be taken in the departments in which the student may wish to do upper-division work)		Electives	
Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2

THIRD YEAR	
Pre-law major (upper-division work)	12
Pre-law minor (upper-division work)	9
Electives	9-15
	32 or more hours

FOURTH YEAR

28 hr. in the College of Law

[23]Latin 1 and 2 are recommended for students not having entrance credit of 2 units in this subject.

(b). ARTS AND MEDICINE OR DENTISTRY (COMBINED COURSE)

(Recommended Curriculum for a Combined Course in Arts and Medicine or Dentistry.)

Students who enter a School of Medicine or a School of Dentistry after the completion of 90 hours, exclusive of military science and physical education, of the premedical and predental curriculum receive the Bachelor of Arts Degree upon the successful completion of the first year of medicine or dentistry.

A student who is a candidate for the A. B. Degree under the provisions of this curriculum must submit, at the time of his acceptance in an accredited School of Medicine or School of Dentistry, a petition for the degree to his adviser who will forward it with his recommendation to the Scholarship Committee. If the petition is approved, the candidate will be recommended for graduation upon receipt of certification from the professional school to the Registrar of the University to the effect that he has successfully completed the first year of medicine or dentistry.

FIRST YEAR

Same courses as recommended in Curriculum for A.B. Degree in Premedicine or Predentistry.

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
English 3 or 5	3	English 4 or 6	3
Physics 1 and 3	4	Physics 2 and 4	4
Chemistry 5, 15 or 63	3-4	Chemsitry 15 or elective	3
French or German	3	French or German	3
Psychology 1 or Genetics 11 or elective	2-3	Psychology 1 or Genetics 11 or electives	2-3
Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Physical Education (Women)	1	Physical Education (Women)	1
Maximum hours allowed	16-18		16-18

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chemistry 233	4-5	Chemistry 238	4-5
French or German	3	French or German	3
Zoology 231	5	Zoology 232 or 255	4-5
Nonscience electives	5-6	Nonscience electives	6-7
Maximum hours allowed	19		19

The following minimum number of credit hours should be completed in the courses listed. English, 12 hr.; French or German, 12 hr.; Mathematics, 6 hr.; Chemistry 23 hr. (must include Chemistry 1, 2, 15, 233, 238, and 5 or 63); Zoology, 17 hr. (must include Zoology 1, 2, 231, and 232 or 255); Physics, 8 hr.; Psychology, 3 hr.; Nonscience group, 12 hr. (see listing of nonscience courses as itemized in Curriculum II). Courses taken as lower-division courses in other institutions may not be transferred and offered as substitutes for upper-division courses of a similar title required in the above curriculum.

BACHELOR OF SCIENCE DEGREE

The Bachelor of Science Degree is conferred upon a student who complies with the general regulations of the University concerning degrees, satisfies all entrance and college requirements, and completes the requirements of one of the fields listed below:

1. Chemistry (See page 141).

2. Geology (See page 155).
3. Nursing Education (See page 172).
4. Social Work (See page 187).

For details of the course of study in each of the above fields consult the departmental announcements.

A SECOND BACHELOR'S DEGREE

A student who has received a Bachelor's Degree in one department or college of West Virginia University may become eligible for a second Bachelor's Degree by earning an additional 30 semester hours in residence in the College of Arts and Sciences and meeting all requirements, departmental and otherwise, of the second Bachelor's Degree.

PRE-PROFESSIONAL COURSES

Not leading to degrees in the College of Arts and Sciences

A. Pre-Commerce Curriculum

Effective September 1, 1952, candidates for the degrees of Bachelor of Science in Business Administration or Bachelor of Science in Economics will be registered in the College of Arts and Sciences during their freshman and sophomore years. They will then be transferred to the College of Commerce, provided they have completed all lower division requirements of that College. (For further information see the *Announcements of the College of Commerce).*

B. Pre-Education Curriculum

Candidates for the degree of Bachelor of Science in Education and Bachelor of Science in Elementary Education are registered in the College of Arts and Sciences until they have completed 58 hours or more of academic work in the lower division of the College, with a grade-point average of 2.0. They are then transferred to the College of Education. During the Pre-Education period students are advised to complete as many as possible of the general courses required by the College of Education and for State certification, as shown in the bulletin, *Requirements Applicable to Degrees and Certificates* or in the special bulletin, *Requirements for the Degree of Bachelor of Science in Elementary Education.*

In addition to the above general academic requirements students preparing to teach in high school are advised to complete as many as possible of the required academic courses in two teaching fields. Those preparing to teach in the elementary school will follow directions applicable to that field.

Upon the successful completion of the entire 64 hours of work in the lower division, Pre-Education students are eligible for the Junior Certificate of the College of Arts and Sciences.

TEACHING CERTIFICATES

The Dean of the College of Education is authorized by the Board of Governors to recommend all applicants for teaching certificates.

High-school teaching certificates may be obtained by students registered in the College of Arts and Sciences as well as in the College of Education, provided they meet the requirements for teaching subjects. To qualify for the elementary-school teaching certificate the student will transfer to the College of Education at the beginning of the junior year.

For specific requirements in regard to certification see the bulletin *Requirements Applicable to Degrees and Certificates,* or the special bulletin, *Requirements for the Degree of Bachelor of Science in Elementary Education.*

Candidates for the A. B. Degree who wish to qualify for teaching certificates should indicate this fact to their adviser and plan their entire course with this in view. Unless this is done by the end of the freshman year, students may encounter

difficulties in qualifying for the certificate by the time they receive the degree. As a check, consultation should be had each semester with Sallie S. Board or Katherine W. Wilson, advisers of Pre-Education candidates for high-school teaching certificates or with Frank Herrera or T. J. Kallsen, advisers of Pre-Education candidates for elementary-school teaching certificates.

C. Pre-Journalism Curriculum

Candidates for the degree of Bachelor of Science in Journalism are registered in the College of Arts and Sciences until they have earned at least 58 semester hours of college credit. During the freshman and sophomore years they should have completed all or most courses specified for pre-journalism majors.

A pre-journalism student who has not maintained at least a "C" average in all his college subjects during his first two years is strongly advised not to enroll in the professional school. If his average grade in English 1 and English 2 was less than "B," he should register for English 13 during his sophomore year. Before or soon after entering the University a student planning to become a journalism major should learn the touch system of typewriting. Since short hand is of great practical value and frequently aids a graduate in obtaining a position, all students, especially those expecting to become assistants to executives, are urged to learn it before coming to college or during their freshman or sophomore year.

The recommended pre-journalism curriculum follows:

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	Newspaper Reporting	3	Newspaper Reporting	3
History 1	3	History 2	3	History 52	3	History 53	3
Science	4	Science	4	Foreign lang. or English 6*	3	Foreign lang. or English 4*	3
Foreign lang.	3	Foreign lang.	3	Economics 1	3	Economics 2	3
Introduction to U.S. Journalism	1	Introduction to Reporting Skills	1	Psychology 1†	3	Polit. Sci. 5	3
Phys. educ.	1	Phys. educ.	1	Mil. or Air Sci.	3 2	Mil. or Air Sci.	4 2
Mil. or Air Sci.	1 2	Mil. or Air Sci.	2 2	Phys. educ. (women)	1	Phys. educ. (women)	1
Electives	0-2	Electives	0-2	Electives†	0-7	Electives†	0-4
Max. hr.	16-17		16-17		16-17		16-17

*Majors unable to schedule English 4 and English 6 in their sophomore year will be required to take them in their junior year.

†A sophomore expecting to become a high-school teacher will choose an elective in his intended teaching field as a substitute for Psychology 1 and in his junior year will take Education 55, Educational Psychology.

D. Pre-Nursing Curriculum

The pre-professional nursing curriculum is offered by the Department of Nursing Education to students who are interested in professional nursing as a career, and who plan to enter a collegiate school of nursing. The Pre-Nursing Curriculum is designed to provide two years of general college work consisting of subjects required in most of the accredited collegiate schools; to stimulate and guide students in selection of courses in the physical and social sciences, in education and in the humanities, as a basis for the basic professional nursing programs leading to the baccalaureate degree; and to give students the personal rewards and satisfactions of working with and helping others, and of participating in Nursing's contribution to family and national welfare in a democratic society. Students are advised to select, as early as possible, the school of nursing they plan to enter, so that any specific requirements can be included

in the required and elective hours provided. Experience has shown that students who fail to attain a minimum average of "C+" may find it difficult to obtain admission to the school of nursing of their choice.

FIRST YEAR				SECOND YEAR			
First Sem	*Hr.*	*Second Sem.*	*Hr.*	*First Sem*	*Hr.*	*Second Sem.*	*Hr.*
Eng. 1	3	Eng. 2	3	Eng. 3 or 5	3	Eng. 4 or 6	3
Chem. 1	4	Chem. 2	4	Sociol. 1	3	Sociol. 2 or 210	3
Zool. 1	4	Zool. 2	4	Psych. 1	3	Psych. 122 or 125	3
Lang., Hist.,		Lang., Hist.,		Hlth. Educ.	2	Educ. 55	3
or elective	3	or elective	4-5	Elective	4-5	Elective	4
P.E.	1	P.E.	1	P.E.	1	P.E.	1
	15		16-17		16-17		17

THIRD AND FOURTH YEARS

Students who complete the requirements for the Bachelor's Degree in the third and fourth years are advised to select a major subject and a minor subject from either sociology, psychology, education or zoology. This preparation meets the requirements for entrance into those university schools of nursing whose basic professional programs lead to the Master of Nursing Degree.

E. Pre-professional Social Work

An undergraduate pre-professional social work curriculum for juniors and seniors is available in the Department of Social Work. The purposes of this curriculum are to prepare students for graduate professional training, to qualify students for positions in social agencies for which graduate professional education is not now required, and to provide understanding of social work for those students who desire it as a part of their general education. (See departmental announcements.)

F. Curriculum in Medical Technology

The curriculum outlined below is designed to satisfy the course requirements for admission to the specialized and technical training portion of the curriculum in Medical Technology offered by the School of Medicine.

Students are not transferred automatically from the pre-professional course (first two years) to the professional course (third year). Only a limited number of students can be accommodated in the third and fourth years. Preference is given to residents of West Virginia. Application for admission to the third year should be made on forms obtainable from the School of Medicine and must be presented at the office of the dean of the school. Applications should be made in February and will be considered after the first of April. Admission to the third year is on the recommendation of the Committee on Medical Technology and with the approval of the Dean of the Medical School.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chemistry 1	4	Chemistry 2	4
Zoology 1	4	Zoology 2	4
English 1	3	English 2	3
French or German	3	French or German	3
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2
Physical Education	1	Physical Education	1
Electives (Women)	2	Electives (Women)	2
Maximum hours allowed	17		17

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chemistry 5 or 63	3-4	Chemistry 15	3
English 3	3	English 4	3
French or German	3	French or German	3
Physics 1 and 3	4	Physics 2 and 4	4
Physical Education (Women)	1	Physical Education (Women)	1
Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Electives	2-3	Electives	3-4
Maximum hours allowed	18		18

Under the jurisdiction of the School of Medicine

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr*
Bacteriology 220	5	Physiology 141	4
Chemistry 131	4	Biochemistry 139	4
Zoology 231	5	Zoology 255	4
Electives	3	Clinical laboratory diagnostic methods 151	4
Maximum hours allowed	17		16

FOURTH YEAR

Work of the fourth year consists of practical experience under careful supervision in laboratories and hospitals. At present this training is given in the Department of Pathology of West Virginia University, the State Hygiene Laboratory, the Charleston General Hospital, and Fairmont General Hospital. This work continues throughout an entire calendar year. Students register in the University for a Summer Session (about 15 weeks) in addition to two regular semesters. See Medical Technology Bulletin for list of courses.

G. Pre-Veterinary

The following sequence of courses is worked out for the general guidance of students who are preparing for the study of Veterinary Medicine.

These courses have, in addition to the minimum requirements, certain courses of general cultural value.

Students who desire to pursue a course in Agriculture while completing entrance requirements to a school of veterinary medicine should enroll in the basic curriculum in Agricultural Science in the College of Agriculture.

THREE-YEAR COURSE

This course does not lead to a degree in the College of Arts and Sciences.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3
Chemistry 1	4	Chemistry 2	4
Mathematics 2 or 3	3	Mathematics 4 or 10	3
Zoology 1	4	Zoology 2	4
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2
Physical Education	1	Physical Education	1
	17		17

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Physics 1 and 3	4	Physics 2 and 4	4
Chemistry 5 or 63	3-4	Chemistry 15	3
Animal Husbandry 11	3	Dairy Husbandry 12	3
Mil. or Air Sci. 3	2	Poultry Husbandry 1	4
Electives	3-4	Mil. or Air Sci. 4	2
		Electives	2
Maximum hours allowed	16-18		18

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chemistry 131 or 233	4	Biochemistry 139 or Chemistry 238	4
Genetics 221	3	Bacteriology 141	4
Dairy Husbandry 111	3	Electives	8-10
Electives	8		
Maximum hours allowed	18		16-18

Twenty hours of electives should be chosen from the following fields: History, Foreign Languages, English, Political Science, Speech, Psychology, Economics, Sociology, Philosophy. Additional electives may be chosen from the Biological Sciences and/or courses in Agriculture. Students should check entrance requirements of the schools to which they are seeking admittance. The above course of study may be altered to meet those requirements as far as possible.

COURSES OF INSTRUCTION AND CURRICULA

INTEGRATED STUDIES

Professor Crocker (chairman), Assistant Professor Kallsen; Instructors Chapman, Neff, and Whorf; and Interdepartmental Staff

Integrated Studies covers four main areas of knowledge and certain basic skills. In the four principal fields of knowledge, courses cut across departmental lines as follows: (1) Humanities: history, Romance languages, English language and literature, speech, Germanic languages and literature, art, philosophy, music; (2) Social Sciences: political science, psychology, economics and business administration, sociology, economics, social work; (3) Biological Sciences: zoology, botany, psychology;

(4) Physical Sciences: geology, geography, chemistry, physics, mathematics, astronomy. In the basic skills, courses are offered in Communication: writing, reading, speaking, and listening.

In the lower division, the four introductory general courses provide (a) general knowledge of subjects not covered by the student's field of major interest and (b) perspective for later concentration in certain fields. These courses are, in addition, recommended for the student who has not chosen a field of specialization. The student will have through these introductions to the main bodies of knowledge an opportunity to discover his real interests and aptitudes for more advanced study. The Communication courses develop proficiency in the skills of writing, reading, speaking, and listening, and thus contribute toward successful work during college and after graduation. Available to all students in the University are laboratory and clinical facilities for corrective work in speech, reading, writing, and listening.

In the upper division, courses are offered that continue at an advanced level the study of important ideas and concepts in the various fields of learning. A deliberate attempt is made to secure in these courses an integrated understanding of a particular subject and its important connections with related fields. These courses frequently consider problems not encountered in sharply defined departmental or specialized courses, and they serve to provide the student with important cross-connections between established disciplines.

Courses of Instruction

I. THE HUMANITIES

1, 2. Introductory General Course. I, II. 4 hr. per semester.
This course is designed to bring to the student's attention cross sections of his civilization at those points where its development has been most significant. In accordance with this aim a substantial part of the course is its background of history, to which are added a survey of world literature, enough philosophy to acquaint the student with the principal thought patterns employed by Western man, the main developments in art and architecture, and some music. A constant attempt is made in the lectures and discussions to relate the past with the present, and to show the continuity of what we call Western Civilization.

The assigned readings constitute the most important feature of the course, in that they supply most of the factual material. Lectures are primarily for the purpose of orientation—to help the student interpret the reading. Lectures on art, architecture, and music are illustrated. Weekly discussion periods are an important part of the course. In them students meet small groups with an instructor, and an effort is made to help them understand the relations of the past to present-day problems. Through the aid of a syllabus, the course is shown in perspective in order that it may be better conceived as a whole. Mr. Manning and Staff

112. The Medieval Synthesis. II. 3 hr. This course emphasizes the organic unity of medieval civilization as exemplified in literature, art, theology, and society. Illustrative material will include readings in the religious and secular works of the period, reproductions of medieval art and architecture and music. Mr. Cresswell and Staff

141. Great Books. (First Course). I. 3 hr. Five literary masterpieces in translation are considered in this course: Plato's *Republic,* St. Augustine's *City of God,* Dante's *Divine Comedy,* Cervantes' *Don Quixote,* and Goethe's *Faust.* Taken separately and in order they represent the Greek world, late Roman Empire, Middle Ages, Renaissance, and Modern period; they are from the classical Latin, late Latin, Italian, Spanish, and German. Taken as a group they illustrate the persistent conflict in the literature of Western Civilization between the actual and the ideal. Staff

142. Great Books. (Second Course). II. 3 hr. Five literary masterpieces, of which four are in translation, are considered in this course: Marcus Aurelius' *Meditations,* Benvenuto Cellini's *Memoirs,* Montaigne's *Essays,* Rousseau's *Confessions,* and Henry Adams' *Education of Henry Adams.* These evaluations of the problems of life, ranging from the time of the Roman Empire to the modern American period, constitute the integrating principle of the course. Staff

181, 182. American Civilization. I, II. 4 hr. per semester. This course is designed to acquaint the student with the salient characteristics of American Civilization as they have developed since the planting of European colonies on this continent. Emphasis is placed on the unique contributions of successive arrivals on American shores to the making of a distinctive American culture, as evidenced in its folkways, arts, and philosophy. The central theme of the course is the manifestation of the democratic spirit in the achievements in thought and feeling of the American people. This course is open to all upper-division students. Mr. Foster and Staff

II. THE SOCIAL SCIENCES

1, 2. Introductory General Course. I, II. 4 hr. per semester. The general course in social science, aids the student in his preparation for citizenship by advancing his understanding of the social order. Major attention is given to an analysis of economic, political, and other social conditions now existing in the United States. A brief analysis of the place of this country in world affairs is included. The course is organized on the basis of two lectures and two discussion periods each week. Mr. Gibbard and Staff

III. THE BIOLOGICAL SCIENCES

1, 2. Introductory General Course. I, II. 4 hr. per semester. Primarily for the student who is not a major in biology, the Introductory General Course deals with the basic values of biology in relation to civilization and modern culture. The course considers the organization and function of living organisms in general, as well as the relations between these organisms and the connection with their physical environment; but emphasis throughout is placed on the importance of the human being and his relationships with other organisms.

Individual student participation is encouraged in discussion periods and in the laboratory, where subject matter may require some group work with equipment and specimens. Lectures are amplified by moving pictures and by demonstrations (one room being continually reserved for demonstrations that illustrate subject matter of the course). Mr. Bennett and Staff

103. Botany in Human Affairs. I, II. 4 hr. per semester. PR: Biology 1 and 2 or Botany 1 and 2. Primarily for non-botany majors, Botany 103 is a lecture-demonstration course relating botany to the life and well-being of man. References to the principles of botany emphasize practical application rather than pure science. Instruction includes lectures illustrated with moving pictures and slides, discussion periods, student explanations, the demonstrations. Mrs. Vandervort

208. Great Texts in Biology. II. 1 hr. PR: Biology 2 or equivalent. A study of some of the great classics in biology, such as Theophrastus' *Enquiry into Plants,* Vesalius' *Epitome,* Harvey's *Circulation of the Blood,* Darwin's *Origin of Species,* and Mendel's *Experiment on Hybrid Plants.* The course is designed to acquaint the student with the historical and philosophical background of modern biology and to show how the utilization of the scientific method has resulted in the great biological discoveries. Mr. Core

IV. THE PHYSICAL SCIENCES

1. 2. Introductory General Course. I, II. 4 hr. per semester. The Introductory Course in the Physical Sciences is intended to acquaint the student with the physical world in which he lives and has two main objectives: (1). to serve as an orientation course for those students who have not chosen their major field of interest, and (2) to present a broad general view of the physical sciences to students whose interests lie in other fields.

Two periods each week are devoted to formal lectures and desk demonstrations; one period a week is used for discussion and quiz in small groups; and one period a week is devoted to laboratory demonstrations, museum displays, and field trips. Motion-picture films are used in connection with certain phases of the course. The syllabus is designed to give a general view of the whole field of the physical sciences as well as serve as a guide for weekly lectures, readings, and discussions.

Students who have successfully completed eight hours of a laboratory science in one of the physical science fields (physics, chemistry, geology) can not take Physical Science 1 or 2 for credit. Staff

103. Elements of Modern Science. 3 hr. PR: Any beginning laboratory science course. Intended primarily for nonscience majors, this course develops an understanding of Science and scientific methods through a study of the development of ideas from early concepts to the present. The illustrative material, drawn from the work of outstanding creative scientists, is integrated in such a way as to provide the student, not with a series of isolated pictures, but with an over-all view of the framework of modern scientific thought and its relation to man in society. The emphasis is not on the technical aspects of science; consequently, a knowledge of mathematics beyond intermediate algebra is not required. Mr. Whorf

150. Modern Scientific Thought. 3 hr. PR: 14 hours of science and consent of instructor. Intended for science and philosophy majors, this course undertakes a critical analysis of the methodology, epistemology, and basic concepts of modern science and particularly of the exact deductive sciences, and it aims to develop the intellectual tools in terms of which various philosophical interpretations of modern natural science can be evaluated. Mr. Whorf

V. COMMUNICATION

Courses primarily for freshmen:

English 0. (Communication). Corrective Course. I, II. 3 hr. For students deficient in the communication skills, as determined by achievement on entrance tests in writing and speaking. Remedial work in laboratory classes. Must be followed by English 1 (Communication) and English 2 (Communication). Mr. Kallsen and Staff

English 1. (Communication). Basic Course in Composition and Rhetoric. I, II. 3 hr. Practice in writing, reading, speaking, and listening to expository discourse. Classes organized to emphasize one of the skills according to the needs of the students. Special sections are provided for students with no marked deficiencies in any of the communications skills, as determined by achievement on entrance tests and in performance tests in writing and speaking. Mr. Kallsen and Staff

English 2. (Communication). Basic Course in Composition and Rhetoric. I, II. 3 hr. PR: English 1 (Communication). Continuation of English 1 (Communication). Practice in critical and argumentative discourse. Consideration of the function of language, abuses of logic, and mass communications. Advanced sections are provided. Mr. Kallsen and Staff

Courses primarily for sophomores:

ENGLISH 21. (Communication). THE USE OF LANGUAGE. II. 3 hr. PR: English 1 and 2 or English 1 (Communication) and 2 (Communication). Practice in the communication skills on a level more advanced than freshman study. Study of the nature of language and its relation to meaning in thought and action. Staff

Courses primarily for upper-division and graduate students:

ENGLISH 211. (Communication). PROBLEMS OF COMMUNICATION. I. 3 hr. Survey of the nature of communication, semantics in clarifying interpersonal communication, and responsibilities and social effects of mass communication. Mr. Kallsen

ENGLISH 220. (Communication). GENERAL SEMANTICS. II. 3 hr. PR: Basic course in at least four of the following fields: English, foreign language, physical science, biological science, history, psychology, social science, or philosophy and consent of instructor. The scientific method and language, the relation between symbols and reality, the effect of symbols on personal and social conflicts, practical devices of written and spoken communication — with continued emphasis on practical applications in various fields. Mr. Kallsen

ART

Professor PATTON; Assistant Professor CLARKSON and Instructor AULL

The Department of Art offers technical courses in drawing, painting, and design; a nontechnical course in appreciation; and lecture courses in the history of the arts. Effort is made to provide for the needs of those interested in the cultural aspects of the arts, to meet the requirements of students planning further work of a technical nature, and to enable students in Education to meet requirements for certification as art teachers.

For art majors the following lower-division program is recommended:

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	English 3	3	English 4	3
Foreign lang.	3	Foreign lang.	3	Foreign lang.	3	Foreign lang.	3
Laboratory sci.	4	Laboratory sci.	4	Humanities 1	4	Humanities 2	4
Art 11	3	Art 12	3	Art 121	3	Art 122	3
Mil. or Air Sci. 1	2	Art 30	2	Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Phys. educ.	1	Mil. or Air Sci. 2	2	Phys. educ.	1	Phys. educ.	1
		Phys. educ.	1	Elective	2	Elective	2
	16		18		18		18

COURSES OF INSTRUCTION

1. CREATIVE EXPRESSION IN THE FINE ARTS. I, II, S. 2 hr. Primarily for Elementary Education Majors. An exploratory course designed to familiarize the student with the possibilities of creative expression through graphic media: to acquaint the student with the advantages and limitations of the various media; and to investigate the adaptability of these to use at various grade levels. Staff

2. CREATIVE EXPRESSION IN THE APPLIED ARTS. I, II, S. 2 hr. A course similar to Art 1 but employing materials such as clay, plasteline, paper, felt, gesso, plaster, and the like, as a means of creative expression. Staff

11 OR 111, 12 OR 112. REPRESENTATION. I, II. 3 hr. per semester. Freehand drawing in pencil and charcoal. Staff

30 or 130. Appreciation of the Arts. I or II. 2 hr. Increasing the student's understanding and enjoyment of the arts; analytical study of selected examples of painting, sculpture, and architecture together with sufficient illustrations from music and poetry to make clear the basic unity of the arts. Mr. Patton

105, 106. Survey of Art. I, II. 3 hr. per semester. History of art from prehistoric times to the present. Offered 1953-54 and alternate years. Mr. Patton

113, 114. Representation. I, II. 3 hr. per semester. PR: Art 11, 12. Painting. Staff

117, 118. Representation. I, II. 3 hr. per semester. PR: Art. 113,114. Painting Mr. Patton and Mr. Clarkson

120. Representation. I or II. 2 hr. PR: Art 11, 12 or consent of instructor. Figure drawing. Study of the construction of the figure. Drawing from the draped model. Staff

121, 122. Fundamentals of Design. I, II. 3 hr. per semester. Mr. Patton and Mr. Clarkson

123. Lettering. I or II. 2 hr. Principles of design involved in lettering and their application. Mr. Patton

126. Modeling. I, II. 2 hr. PR: Consent of instructor. Introductory course in sculpture. Mrs. Aull

127. Crafts. I or II. 2 hr. Crafts in their relation to the art program in the secondary school and to recreation programs. Staff

151, 152. Special Problems. I, II. 3 hr. per semester. Staff

220. Art and the Schools. I, II, S. 2 hr. PR: 4 hours of art including a minimum of 2 hr. studio. The function of art in the curriculum at various grade levels. Standards of achievement. Methods of integrating art and the other subjects. Mr. Patton

250. Renaissance Painting. I, II. 3 hr. PR: Art 105 and 106. A study of painting in Italy from Cimabue to Tiepolo; the Renaissance in Western Europe; a brief consideration of baroque and rococo painting as outgrowths of the renaissance. Offered 1952-53 and alternate years. Mr. Patton and Mr. Clarkson

260. Modern Painting. II. 3 hr. PR: Art 105 and 106. Development of painting from the French Revolution to the present day. Offered 1952-53 and alternate years. Mr. Patton and Mr. Clarkson

BIOLOGY

Professors Core, Anderson, Gribble, Spangler, and Taylor; Associate Professor Ammons; Assistant Professor Bennett; Instructors Barr, Birch, Daugherty, Smell, Smith, and Vandervort.

Students may select botany or zoology as their major subject. Biology 1 and 2 or Botany 1 and 2 will be required of students who wish to major in botany. Either Biology 1 and 2 or Zoology 1 and 2 will be required of students who elect to major in zoology.

Prospective majors in either botany or zoology should include in their schedule of lower-division work Chemistry 1 and 2. Prospective majors in zoology should also include Chemistry 15 in lower-division schedule.

By permission of his adviser the student may select courses offered in other colleges and schools of the University in partial fulfillment of the requirements for a major subject.

The following suggested curricula are not to be regarded as specific requirements but will serve as a guide in selection of subjects:

SUGGESTED CURRICULUM FOR THE A.B. DEGREE WITH A MAJOR IN BOTANY

Freshman	*Hr.*	*Sophomore*	*Hr.*	*Junior*	*Hr.*	*Senior*	*Hr.*
Bot. 1 and 2 or		Foreign lang.	6	Bot. 231, 232	8	Botany 273	4
Biol. 1 and 2	8	Physics 1 and 2	6	Botany 235	3	Botany 261, 262	6
English	6	Syst. Bot.	4	Botany 221	4	Botany 227	4
Foreign lang.	6	Physics 3 and 4	2	Biology 211	3	Biology 205	3
Chem. 1 and 2	8	Electives	10	Genetics 221	3	Bot. Seminar	2
Phys. educ.	2	Mil. or Air Sci.	4	Bact. 141	4	Botany 255	2
Mil. or Air Sci.	4			Electives	8	Electives	11
	34		32		33		32

SUGGESTED CURRICULUM FOR THE A.B. DEGREE WITH A MAJOR IN ZOOLOGY

Freshman	*Hr.*	*Sophomore*	*Hr.*	*Junior & Senior*	*Hr.*
Zoology 1 and 2 or		Foreign lang.	6	Genetics 221	3
Biol. 1 and 2	8	Mil. or Air Sci.	4	Chem. 233 and 238	8
English	6	Physics 1 and 2	6	Zool. and Biol.	
Foreign lang.	6	Physics 3 and 4	2	Upper-division	
Chem. 1 and 2	8	Chem. 15	3	courses, minimum	18
Phys. educ.	2	Electives	11	Electives	36
Mil. or Air Sci.	4				
	34		32		65

Courses of Instruction

BIOLOGY

Lower Division

1, 2. General Biology. I, II. 4 hr. per semester. General Introductory course in Biology. Mr. Bennett and Staff

Upper Division

201, 202. Teaching Materials. I, II. 3 hr. per semester. PR: Biology 2 or equivalent. Survey of devices and materials available for teaching biological sciences . Mr. Core

205. Principles of Evolution. I. 3 hr. PR: Biology 2, Botany 2, or Zoology 2. Offered in 1952-53 and alternate years thereafter. Mr. Bennett

207. History of Biology. II. 3 hr. PR: Biology 2. Offered in 1953-54 and alternate years. Mr. Core

208. Great Texts in Biology. II. 1 hr. PR: Biology 2 or equivalent. A study of some of the great classics in biology, such as Theophrastus' *Enquiry into Plants,* Vesalius' *Epitome,* Harvey's *Circulation of the Blood,* Darwin's *Origin of Species,* and Mendel's *Experiment on Hybrid Plants.* Mr. Core

209. The Literature of Biology. I. 1 hr. PR: Biology 2 or equivalent. A consideration of the sources and forms of the literature, the development of bibliographies, and the preparation of scientific papers. Mr. Core

211. Biological Technique. I. 3 hr. PR: Biology 2, Botany 2 or Zoology 2, or equivalent. Theory and practice of making microscopic preparations, etc. Primarily for botany and zoology majors. Miss Daugherty

215. Cytology. II. 4 hr. PR: Biology 2. Cells, their structure and functions. Mr. Bennett

273, 274. General and Comparative Physiology. I, II. 4 hr. per semester. PR: Biology 2, Botany 2, or Zoology 2. A consideration of the functions common to all forms of living matter. Mr. Anderson

Graduate Division

301, 302. Seminar. I, II. No Credit. Topics of interest to all biologists are considered. All members of the staff and graduate students contribute by the presentation of a report on some scientific activity. Required of all graduate students. Staff members and students in other departments are invited to attend. Staff

311. Problems in Microtechnique. II. 1-3 hr. PR: Biology 211 and consent of instructor. Miss Daugherty

321, 322, 323, 324. Seminar in Ecology. I, II. 2 hr. per semester. PR: Botany 221 or Zoology 221 and consent. Selected topics on relations of organisms to environment and on communities or organisms. Staff

376, 377, 378, 379. Seminar in General Physiology. I, II. 2 hr. per semester. PR: Biology 274, Botany 273, Zoology 271, or Plant Pathology 330, and consent. Selected topics on functions common to all organisms. Staff

BOTANY

Lower Division

1, 2. General Botany. I, II. 4 hr. per semester. A general survey of the plant kingdom. Miss Ammons and Staff

61. Systematic Botany. I. 2 hr. Identification of seed plants. Primarily for students in Forestry. Mr. Core

67, 68. Dendrology. I, II. 3 hr. per semester. PR: Biology 2. Classification and distribution of the timber trees of the United States. Primarily for students in Forestry. Mr. Core

71. Plant Physiology. II. 2 hr. Physico-chemical processes of plants. Primarily for students in Forestry. Mr. Baer

Upper Division

101, 102. Seminar. I, II. 1 hr. per semester. Topics of interest to all students of plants are considered. Staff

103. Botany in Human Affairs. I. 3 hr. PR: Biology 2 or equivalent. The different aspects of botany as related to their bearing on the life of man. Mrs. Vandervort

161. Systematic Botany. II. 4 hr. Identification of seed plants and study of their classification. Mr. Core

218. Economic Botany. II. 3 hr. PR: Biology 2 or Botany 2. Plants from the standpoint of their value to man. Offered in 1953-54 and alternate years thereafter. Mr. Core

221. Plant Ecology. I. 4 hr. PR: Biology 2 or Botany 2. Environmental relationships of plants. Mr. Baer

224. Plant Communities. S. 2 hr. PR: Biology 2 or equivalent. Field studies in Ecology. Offered in 1954 and every third year thereafter. Mr. Baer

225. Experimental Ecology. II. 4 hr. PR: Biology 1, Botany 161, and Botany 221 or equivalents. Experiments on environmental relations of plants. Mr. Baer

227. Geographic Botany. I. 3 hr. PR: Botany 2 or Biology 2. Study of plant groupings and worldwide distribution of plants. Offered in 1953-54 and alternate years. Mr. Core

229. Field Studies in Botany. SI. 6 hr. PR: Botany 2 or equivalent. Primarily for botany majors and to meet the needs of those who intend to teach or are teaching botany. Studies will be conducted in various, interesting regions of the State; the entire time will be spent in the field. Aims to familiarize students with plant life of the State in its natural conditions. (Further information will be found in the Summer Session bulletin and in special announcements.) Mr. Bennett

231. Plant Morphology. I. 4 hr. PR: Biology 2 or Botany 2. Development and structure of algae and fungi. Mr. Spangler

232. Plant Morphology. II. 4 hr. PR: Biology 2 or Botany 2. Development and structure of bryophytes and vascular plants. Mr. Spangler

235. Plant Anatomy. I. 3 hr. PR: Botany 2 or equivalent. Anatomy of seed plants. Miss Ammons

255. Bryophytes. II. 2 hr. PR: Botany 2 or Biology 2. Identification of liverworts and mosses. Miss Ammons

261. Advanced Systematic Botany. I. 3 hr. PR: Botany 161 or equivalent. Taxonomy of pteridophytes, gymnosperms and monocotyledons. Offered in 1952-53 and alternate years thereafter. Mr. Core

262. Advanced Systematic Botany. II. 3 hr. PR: Botany 161 or equivalent. Taxonomy of dicotyledons. Offered in 1952-53 and alternate years thereafter. Mr. Core

265. Aquatic Seed Plants. S. 3 hr. PR: Biology 2 or equivalent. Classification, ecology and economic importance of aquatic seed plants. Mr. Bennett

273. Plant Physiology. I. 4 hr. PR: Biology 2 or Botany 2, and Chemistry 1 and 2 or equivalent. Physico-chemical processes of plants. Mr. Baer

274. Plant Physiology. II. 4 hr. PR: Botany 273 or equivalent; also courses in general physics and organic chemistry. Advanced studies of plant processes and physiological methods. Mr. Baer

Graduate Division

351, 352. Problems in Plant Taxonomy. I, II. 1-6 hr. PR: Botany 261, 262, or equivalent. Mr. Core

391, 392, 393, 394. Research. I, II. 1-6 hr. Staff

ZOOLOGY

Lower Division

1, 2. General Zoology. I, II. 4 hr. Facts and principles fundamental to an understanding of invertebrate and vertebrate animals. Designed for premedical students and prospective majors in zoology. Students who have taken Biology 1 or 2 may not register in this course. Mr. Taylor and Staff

3. Elementary Zoology. II. 4 hr. PR: Biol. 1. Introduction to animal biology. Registration restricted to students in Agriculture. Mr. Taylor and Staff

31. Human Anatomy. I. 4 hr. General anatomy for nurses. Mr. Gribble

Upper Division

171. Human Physiology. II. 4 hr. An introductory course on the functions of man. Mr. Anderson and Staff

210. Animal Behavior. I. 3 hr. PR: Zoology 2 or equivalent. Principles of individual and group behavior. Offered in 1952-53 and alternate years thereafter. Mr. Taylor

221. Animal Ecology. I. 3 hr. PR: Zoology 2 or equivalent. Relations between animals and their environment with emphasis on communities of living organisms. Offered in 1953-54 and alternate years thereafter. Mr. Taylor

229. Field Zoology. SI. 6 hr. PR: Zoology 2 or equivalent. Observation, collection and identification of West Virginia animals. A six weeks' bus and camping trip offers facilities for investigating varied areas of biological interest. (Further information will be found in the Summer Session bulletin and in special announcements.) Mr. Taylor

231. Comparative Anatomy. I. 5 hr. PR: Zool. 2 or equivalent. Organs and systems of various vertebrates, together with other facts of interest concerning these animals. Mr. Gribble and Miss Smith

232. Vertebrate Embryology. II. 5 hr. PR: Zoology 2 or equivalent. Introductory study of development of vertebrates, based chiefly on frogs, fowl and mammals. Mr. Gribble and Miss Smith

233. Comparative Histology. II. 3 hr. PR: Zoology 231 and 232. A comparative study of the tissues of the vertebrates. Miss Smith

235. Comparative Developmental Anatomy. II. 3 hr. PR: Zoology 231. Anatomy and development of the organs and systems of various vertebrates. Mr. Gribble

236. Comparative Neuroanatomy. II. 2 hr. PR: Zoology 2 or equivalent. Comparative study of development and anatomy of the nervous systems of the vertebrates. Mr. Gribble

237. Osteology. I. 2 hr. PR: Zoology 2 or equivalent. Development and anatomy of the skeleton. Miss Smith

251. Invertebrate Zoology. I. 4 hr. PR: Zoology 2 or equivalent. Advanced study of animals without backbones. Mr. Birch

255. Introduction to Human Parasitology. II. 4 hr. PR: Zoology 2 or equivalent. Biological aspects of parasites and other animals of medical importance. Mr. Taylor

265. Ornithology. II. 3 hr. PR: Zoology 2 or equivalent, and permission of instructor. Field and laboratory studies on identification, migration, protection, nesting and food habits of birds. Mr. Birch

271. Physiology of Domestic Animals. I. 4 hr. PR: Zoology 2 or equivalent. The functions of domestic animals. Mr. Anderson

Graduate Division

331. Mammalian Anatomy. S. 3 hr. PR: Zoology 231, 232, 233, 235, 236 and 237 and consent of instructor. The study of the anatomy of selected animals from the regional and sectional approach. Offered 1953 and every third year. Mr. Gribble

332. Anatomy of the Integument. I. 2 hr. PR: Zoology 231, 232, 233 and 235 and consent of instructor. An advanced study of the gross, developmental, comparative, and microscopic anatomy of the integument and its derivatives. Offered 1952-53 and every third year. Mr. Gribble

334. Anatomy of the Circulatory and Respiratory Systems. II. 3 hr. PR: Zoology 231, 232, and 235 and consent of instructor. An advanced study of the gross, developmental, and comparative anatomy of the circulatory and respiratory systems. Offered 1952-53 and every third year. Mr. Gribble

335. Anatomy of the Urogenital System. I. 3 hr. PR: Zoology 231, 232, and 235 and consent of instructor. An advanced study of the gross, developmental and comparative anatomy of the genital and urinary systems. Offered 1953-54 and every third year. Mr. Gribble

336. Advanced Comparative Neuroanatomy. II. 3 hr. PR: Zoology 231, 232, 233 and 236 and consent of instructor. An advanced study of the gross, microscopic, developmental, and comparative anatomy of the nervous system. Offered 1953-54 and every third year. Mr. Gribble

337. Advanced Osteology. S. 3 hr. PR: Zoology 231 and 237 and consent of instructor. The study of the gross, microscopic, developmental, and comparative anatomy of the skeleton. Offered 1954 and every third year. Mr. Gribble

338. Analogies and Homologies. I. 3 hr. PR: Zoology 231, 232, 233, 235, 236, 237, 331, 334, 335, 336, and 337 and consent of instructor. A detailed study of the analogies and homologies as found in the vertebrates. Offered 1954-55 and every third year. Mr. Gribble

339. Anomalies and Variations. II. 3 hr. PR: Zoology 231, 232, 233, 235, 236, 237, 331, 334, 335, 336, 337, and 338 and consent of instructor. A detailed study of the types, causes, results and frequency of vertebrate anatomical and developmental anomalies and variations. Offered in 1954-55 and every third year. Mr. Gribble

351. Advanced Invertebrate Zoology. I, II. 1-4 hr. PR: Zoology 251 and consent. Mr. Birch

391, 392, 393, 394. Research. I, II. 1-6 hr. Staff

396, 397. Special Topics. I, II. 1-3 hr. per semester. Critical studies of topics to be determined according to the student's requirements. Staff

CHEMISTRY

Professors Lazzell, Collett, and Dustman; Associate Professors Gibson and J. L. Hall; Assistant Professors Bischoff, G. A. Hall, Hickman, Huselton, Iffland, Muth, Pursglove, and Wilson; Instructors Miller and Popovich.

Chemistry 1 and 2 are prerequisite to all courses in chemistry. Chemistry 5, 6, 233, 238, 260, and 261; Mathematics[24] 107 and 108; minimum one year of physics[25] are required of candidates for the A.B. degree who major in chemistry.

Students entering the University with intention of studying chemistry as a profession leading to a degree in the College of Arts and Sciences, with major in chemistry, should take Mathematics 3 and Chemistry 1 during the first semester of their first year.

A deposit is required of all students who take laboratory courses.

BACHELOR OF SCIENCE IN CHEMISTRY

Requirements for the Bachelor of Science in Chemistry Degree are essentially the same as the requirements for the Bachelor of Arts Degree with the major in chemistry for all nonchemical courses. The distinction lies mainly in the extra chemistry (elective) requirements, and an additional 6 hours of a second language above that required for the A.B. Degree.

[24]If mathematics is elected as a minor, an additional 3-hour course beyond calculus (usually Differential Equations) is required.

Freshman	*Hr.*	*Sophomore*	*Hr.*	*Junior*	*Hr.*	*Senior*	*Hr.*
Chem. 1 & 2	8	Chem. 5	4	Chem. 233	5	Chem. 260.	5
English	6	Chem. 6	5	Chem. 238	5	Chem. 261	5
Foreign lang.	6	Math. 5	4	Math. 108	4	Chem. Eng. 234, 235	4
Mathematics 3	3	Foreign lang.	6	Physics 105, 106	5	Chem. electives	8
Mathematics 4	3	Math. 107	4	Physics 107, 108	5	Other electives	11
Electives	2	Electives (not chemistry)	8	Chem. Eng. 200	2		
Phys. educ.	2	Mil. or Air Sci.	4	Chem. electives	4		
Mil. or Air Sci.	4			Other electives	4		
	34		35		34		33

Courses of Instruction[26]

Lower Division

1. Inorganic Chemistry. I, II. 4 hr. Required of all students whose work calls for the first year of chemistry. Elective for others. Primarily for freshmen. Staff

2. Inorganic Chemistry. I, II. 4 hr. PR: Chem. 1. Required of all students whose work calls for first year of chemistry. Elective for others. Primarily for freshmen. Staff

5 or 105. Qualitative Analysis. I. 4 hr. PR: Chem. 1 and 2. Required of students whose major is chemistry, and pharmacy students. 2 lect. and 2 3-hour lab. periods. Mr. Gibson and Miss Wilson

6 or 106. Quantitative Analysis. II. 4-5 hr. PR: Chem. 1 and 2. Chemistry 5 should precede this course wherever possible. Required of students whose major is chemistry, mining engineering, and pharmacy. Mr. Gibson

8. Qualitative Analysis. S. 2 hr. PR: Chem. 1 and 2. Given in Summer Session only for engineering students. Staff

10. Quantitative Analysis. I. 2 hr. PR: Chem. 1 and 2. Primarily for engineering students. Mr. Bischoff

15 or 115. Quantitative Analysis. I, II. 3 hr. PR: Chem. 2. For premedical and chemical engineering students. Mr. Bischoff and Mr. Huselton

31 or 131. Organic Chemistry. I. 4 hr. PR: Chem. 2. For students in agriculture and home economics. Mr. Dustman

63 or 163. Physical Chemistry. I. 4 hr. PR: Chem. 2. Required of premedical students and recommended for Geology majors and non-chemistry majors. Mr. G. A. Hall

Upper Division

107. Quantitative Analysis. II. 2 hr. Continuation of Chemistry 15 and 115. Miss Wilson

111. Synthetic Inorganic Chemistry. I. 4 hr. PR. Chemistry 6 or 106. Mr. Hickman

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[25]Physics 105, 106, 107, and 108 may count as a minor. If Physics 1, 2, 3 and 4 are offered, nine additional upper-division hours in physics are required to satisfy the minor.

[26]Chemistry 1 and 2 are prerequisite to all other courses in chemistry. Three-year and four-year premedical students are referred to page 122 for outline of required courses. For courses in biochemistry and pharmaceutical chemistry see those sections.

141, 143. Assigned Topics. I. 1-5 hr. PR: Approval of instructor. Staff

142, 144. Assigned Topics. II. 1-5 hr. PR: Approval of instructor. Staff

162. The Chemistry of Colloids. II. 4 hr. Elective for four-year premedical students. Mr. G. A. Hall

170. Glass Working for the Chemical Laboratory. II. 2 hr. PR: Chemistry major or approval of instructor. Mr. Iffland

208. Quantitative Analysis. I. 3 hr. PR: Chemistry 6, (5 hr.), Physics 4 or 107 and 108, and Mathematics 5. Mr. Gibson

214. Qualitative Organic Analysis. I. 3 hr. PR: Chem. 238. Miss Wilson

215. Quantitative Organic Analysis. II. 3 hr. PR: Chem. 238. Miss Wilson

233. Organic Chemistry. I, II. 4-5 hr. PR: Chemistry 6 or 15. Required of students who major in chemistry, pre-med., chemical and mining engineering. Mr. Lazzell and Mr. Iffland

238. Organic Chemistry. I, II. 4-5 hr. PR: Chem. 233. Mr. Lazzell and Mr. Iffland

247. Stereochemistry. I. 2 hr. Open to seniors. PR: Chem 238. Mr. Iffland

260. Physical Chemistry. I. 4-5 hr. PR: Chemistry 233, Physics 2 and 4 or 106 and 108, and Mathematics 108. Required of chemistry majors and chemical engineering students, the latter for 4 hours credit. Mr. Collett

261. Physical Chemistry. II. 4-5 hr. PR: Chemistry 260. Required of chemical engineering students and chemistry majors. Mr. Collett

273. Chemical Literature. I, II. 2 hr. PR: Chem. 6 and 238. Open to seniors. Mr. Hickman

274. History of Chemistry. II. 2 hr. PR: Chem. 6 or equivalent, and organic chemistry. Mr. Pursglove

275. Modern Chemical Theories and Practices. S. 2 hr. PR: 16 hours of chemistry. Primarily a refresher course for high school teachers. Not for graduate chemistry majors. Mr. Collett

277. Synthetic Drugs. I or II. 2 hr. PR: Chemistry 238 or equivalent. Mr. Pursglove

Graduate Division

301. Advanced Inorganic Chemistry. I. 3 hr. PR: Chem. 261. Mr. Popovich

302. Advanced Inorganic Chemistry. II. 3 hr. PR: Chem 301. Mr. Popovich

317. Modern Plastics. I or II. 3 hr. Staff

343. Advanced Organic Chemistry. I. 4 hr. PR: Chemistry 238 or equivalent. Mr. Lazzell

345. Theories of Organic Chemistry. II. 2 hr. PR: Chemistry 343. Mr. Lazzell

350. Heterocyclic Chemistry. II. 2 hr. PR: Chem. 343. Mr. Muth

367. Advanced Physical Chemistry. II. 2-4 hr. PR: Chemistry 261. Mr. J. L. Hall

368. Advanced Physical Chemistry. I. 2 hr. PR: Chem. 367. Mr. J. L. Hall

369. Chemical Kinetics. I or II. 2 hr. PR: Chem. 261. Mr. G. A. Hall

379. Seminar in Coal Research. I, II. 1 or 2 hr. PR: Consent. Credit 1 hour per semester, maximum credit 2 hours. In cooperation with other departments and the U.S. Bureau of Mines.

380. Electrochemistry I or II. 3 hr. PR: Chemistry 238 and 261. Mr. Collett

383. Advanced Quantitative Analysis. I or II. 3 hr. PR: Chem. 208, 238, 261. Mr. Gibson

388. Valence and Molecular Structure.[27] I or II. 2 hr. PR: Mathematics 108, Physics 108, Chemistry 261. Mr. Gibson

389. Chemical Thermodynamics.[28] I. 2 hr. PR: Chemistry 261 and Mathematics 108. Mr. Gibson

390. Chemical Thermodynamics.[28] II. 2 hr. Continuation of Chem 389. Mr. Gibson

391, 392. Journal Meeting and Seminar. I, II. 1 hr. per semseter. Required of students working for graduate degrees with major in chemistry. Recommended as a minor for students from other departments. Staff

395, 396. Special Topics. I, II. 1-3 hr. per semester. Chemistry of the carbohydrates, organic nitrogen compounds, the phase rule, dyes and dye intermediates, food analysis, chemical microscopy, and crystallography are suggested topics. Staff

397, 398, 399. Research. I, II. 1-10 hr. 6 hr. Required for the Master's Degree. Staff

CLASSICS

Professor Brouzas

The Department of Classics offers courses in the Greek and Latin languages and in classical civilization. Courses in the department are intended not only to give students a thorough knowledge of the Greek and Latin languages and literatures but also to acquaint them with the classical culture in general. A student with major in Latin should plan to include at least 6 hours of Greek in his course, preferably in the sophomore year.

Courses suggested for classics majors with English as a second teaching field for certification in West Virginia:

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	English 65[29]	3	Journalism 15[29]	3
English 3[29]	3	English 4[29]	3	Latin	3	Latin	3
Latin (according to preparation)	3	Latin	3	Greek 1	3	Greek 2	3
Laboratory sci.[30]	4	Laboratory sci.[30]	4	Sociology or Electives	3	Sociology or economics	3
Phys. educ.	1	Phys. educ.	1	economics	3	Speech[29]	3
Electives	2	Electives	2	Physical educ.	1	Electives	2
	16		16		16		17

Courses of Instruction

Lower Division

1. Elementary Latin. I. 3 hr. Elements of the Latin language. Completion of a standard beginner's book.

2. Elementary Latin. II. 3 hr. Continuation of Latin 1, consisting of study of a standard second-year book.

[27]To alternate with Chemistry 389 and 390; not available in 1952-53.
[28]Offered in alternate years; available in 1952-53.

3. Intermediate Latin. I. 3 hr. PR: Latin 2 or two units of high-school Latin. Selections from Caesar, Aulus Gellius, Nepos, and from other authors of comparable ease, designed to prepare students to read orations of Cicero and other Latin of similar difficulty.

4. Cicero's Orations. II. 3 hr. PR: Latin 3, or 2 units of high-school Latin.

5. Latin for Law Students: Selections from Legal Latin and the Institutes of Justinian. II. 3 hr. PR: Latin 3 or 2 units of high-school Latin.

6. Vergil's Aeneid. II. 3 hr. PR: Latin 4 or 3 units of high-school Latin.

12. Selections from Roman Prose. I. 3 hr. PR: Latin 4 and 6 or equivalent. Cato to the end of the Silver Latin period.

14. Roman Comedy. I. 3 hr. Latin 4 and 12, or 4 units of high-school Latin. Plautus, Captivi, or Menaechmi; Terence, Adelphoe, or Andria.

21. Roman Letterwriting. I. 3 hr. PR: Latin 4 and 12, or 4 units of high-school Latin.

22. Selections from Roman Poetry. II. 3 hr. PR: Latin 4 and 12, or equivalent. Selections from the elegaic, lyric, and iambic poets and from Martial's epigrams.

23. Livy and Cicero. II. 3 hr. PR: Latin 14 and 21, or equivalent. Selections from Livy books 21 and 22; Cicero's *De Senectute* or *De Amicitia.*

24. The Lyric and Bucolic Poets. II. 3 hr. PR: Latin 4 and 12, or equivalent. Selections from Horace's Odes and Epodes; from Catullus and other poets; selections from the Bucolics of Vergil and Calpurnius.

25. Latin Composition. II. 3 hr. PR: Latin 12 and 22, or equivalent. A review of the principles and syntax of the Latin language, and practice in writing simple Latin.

Upper Division

130. Leadership in Classical Club. II. 2 hr. PR: Four years of high-school Latin or twelve hours of Latin taken in college. Materials for enriching, vivifying and making Latin concrete; Latin posters, scrap books, Latin derivatives in English and modern languages, Latin playlets, Latin mottoes, proverbs, mythological allusions, etc. Offered every other year. Approved for high-school certification in co-curricular activity.

201. The Story and Novel. I. 3 hr. PR: Latin 12 and 22, or equivalent. The origin of the story and novel is traced from Homer to the medieval Greek and Latin romance writers. Selections from Petronius, the Cena Trimalchionis, and from Apuleius, Cupid and Psyche.

202. Drama. II. 3 hr. PR: Latin 12 and 22, or equivalent. A brief history of the origin and development of Greek and Roman drama. The Menaechmi of Plautus, the Andria of Terence, and the Medea of Seneca.

203. Oratory. II. 3 hr. PR: Latin 12 and 22, or equivalent. A bird's eye view of Greek and Roman oratory is given and part of the first book of Cicero's De Oratoré; selections from Quintilian's Institutes and from Tacitus' Dialogus de Oratoribus.

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[29]Students wishing to offer social science for certification may substitute history for this course.

[30]Students who wish to have social studies as their second teaching field may elect geology for the laboratory science.

227. Vulgar Latin—Prose and Verse. I. 3 hr. PR: Latin 12 and 22, or equivalent. Selections from Latin inscriptions with a view to studying the development of the Latin language from its earliest times; also selections from medieval and later Latin writers are read which show the passing of the Latin language into the Romance languages.

231. Satire. II. 3 hr. PR: Latin 12 and 22, or equivalent. Greek satirical writings and the origin of the Roman satire. Selections from the Satires and Epistles of Horace, and from the Satires of Persius and Juvenal.

234. History. I. 3 hr. PR: Latin 12 and 22, or equivalent. The origin and development of Roman historiography and its Greek antecedents. Selections from Livy's History, from Tacitus' Agricola, and from Suetonius' Julius Caesar.

235. Epic. I. 3 hr. PR: Latin 12 and 22, or equivalent. The origin and development of the Greek and Roman epic. Selections from Vergil's Aeneid, from Lucretius' De Rerum Natura, and from the earlier and later epic poets.

236. Philosophy. II. 3 hr. PR: Latin 12 and 22, or equivalent. The origin and development of Greek Philosophy and its influence upon Roman philosophy. Selections from Cicero's Tusculan Disputations on the immortality of the soul and from Seneca's Dialogues and Epistles.

Graduate Division

381, 382. Seminar. Introduction to Research. I, II. 3 hr. each semester. PR: at least three courses of upper division Latin, or equivalent. Methods of textual, literary, and historical criticism. Evaluation of text, sources, and background of an author, whose principal work is studied and analyzed.

383, 384. Thesis. I, II. 3 hr. each semester. Six hours of credit are allowed for a thesis, required for the degree of Master of Arts in the department. A controversial subject, or a little explored subject is usually assigned, intended not only to acquaint students with the subject-matter and to develop the various sides of research method but also to produce a creditable piece of research.

CLASSICAL CIVILIZATION

Upper Division

237. Greek and Roman Religion and Art. I. 3 hr. A study of the Greek and Roman religious ideas and myths, with particular emphasis on their influence upon the art and literature of the ancient and the modern world.

239. Greek and Roman Life and Thought. I. 3 hr. A survey of Greek and Roman culture and thought as reflected in classical literature. Selections from Greek and Latin literatures in translation.

GREEK

Lower Division

1. Elementary Greek. I. 3 hr. A course in the elements of the Greek language.

2. Selections from Greek Literature (Prose). II. 3 hr.

3. Selections from Greek Literature (Poetry). II. 3 hr.

4. Selections from Hellenistic and Biblical Greek Literature. I. 3 hr.

5. Selections from Medieval and Modern Greek Literature. II. 3 hr.

Note: A student who knows modern Greek well, may, upon the completion at the University of Greek 1 and 2, apply for advanced standing in Greek 4 and 5. A special examination will be given, and credit allowed shall not exceed three semester hours for each course.

ECONOMICS

Professors Coleman and Tower; Associate Professors Fishman and Roberts; Assistant Professors Campbell, Hanczaryk, Somers and Thompson

The academic year 1952-53 brings into existence a new College of Commerce that is formed from the old Department of Economics and Business of the College of Arts and Sciences. The new College of Commerce will grant the B.S. degree, with Economics as a major. The College of Arts and Sciences will continue to grant the A.B. degree with a major in Economics.

Enrollment for the A.B. degree affords the student an opportunity for fundamental training in the field of Economics while at the same time affording opportunity for broad, general training in other fields. Thirty or more credit hours, from a total of 128 required for graduation, are available for elective subjects.

Courses of Instruction

The department offers courses leading to the A.B. Degree with a major in Economics.

A candidate for either degree must complete a minimum of 128 college hours for graduation. He must also complete a minimum of 24 upper-division hours in the Department. In no instance will undergraduate credit be given for more than 40 college hours, including lower-division courses, in Economics. Candidates must complete a minimum of 52 college hours at the upper-division level. Of these, a minor field of not less than 9 upper-division hours, approved by the candidate's adviser, must be earned in a department other than Economics.

Lower-Division Program. The curriculum of the lower division is designed to provide a background for the study of Economics. The following courses are required and students are expected to complete them within the first two years of residence at the University.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3
Foreign Language[31]	3	Foreign Language[31]	3
History 1 or Humanities 1	3 or 4	Laboratory Science[32]	4
Laboratory Science[32]	4	History 2 or Humanities 2	3 or 4
Physical education	1	Physical education	1
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2
	16 or 17		16 or 17

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Economics 1	3	Economics 2	3
Foreign language	3	Foreign language	3
Pol. Sci. 5 or History 52	3	Pol. Sci. 106 or History 53	3
Elective	3	Public Speaking 11	3
Mathematics 8	3	Elective	3
Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Maximum hours allowed	17		17

[31]See language requirements for College of Arts and Sciences.

[32]A laboratory science may be chosen from biology, chemistry, physics, botany, zoology, psychology, geology, or physical science.

Upper-Division Program. The following courses are required of all Economics majors:

Money and Banking
Statistics
Labor Problems
Economic Theory
History of Economic Thought

In addition to the above courses, candidates must complete a minimum of 9 upper division hours in Economics.

Courses of Instruction

Lower Division

1. Principles of Economics. 3 hr.
2. Principles of Economics. 3 hr.

Upper Division

110. Money and Banking. 3 hr.
115. Labor Problems. 3 hr.
120. Economics of Consumption. 3 hr.
125. Statistics. 3 hr.
126. Problems in Statistics. 3 hr.
210. Problems in Economics. 1-3 hr.
211. Comparative Economic Systems. 3 hr.
215. History of Labor in U. S. 3 hr.
216. Trade Unionism. 3 hr.
217. Collective Bargaining and Labor Relations. 3 hr.
220. Economic Theory. 3 hr.
222. History of Economic Thought. 3 hr.
225. Transportation. 3 hr.
230. Public Utilities. 3 hr.
235. Business Cycles. 3 hr.
240. Public Finance. 3 hr.
241. Taxation. 3 hr.
245. Government and Business. 3 hr.
250. International Trade. 3 hr.

ENGLISH LANGUAGE AND LITERATURE

Professors Crocker and Draper; Associate Professors Bishop, Brawner (Chairman), Chappell, and Gainer; Assistant Professors Anderson, Foster, Mockler, Page, Pettigrew, Reed, and Sayre; Instructors Allen, Board, Buswell, Dawson, Dowdell, Emley, Greet, Hicks, R. Holden, S. Holden, Howard, Law, Leonian, Marks, Ruhe, and Spangler.

A student who is admitted to the upper-division of the University may be admitted to the Department of English as a major on consultation with the departmental adviser. No absolute prerequisites, except freshman English and other lower-division Arts and Sciences requirements, are stated as conditions of admission; but it is desired that students who anticipate becoming English majors should be guided by the suggested lower-division programs listed below. If a student on entrance into the upper-division presents deficiencies in English credits, he will be expected to take additional work during his junior and senior years. A major student will complete a minimum of 24 hours of upper-division English courses.

Advisers of upper-division students who are not English majors may schedule them for upper-division courses in English without regard to prerequisites, according to the advisers' discretion.

Teacher Certification for English Majors

A student may meet the requirements for the A.B. degree with a major in English and at the same time qualify for teacher certification. Those who wish to pursue this plan will first complete the requirements of the basic two-year curriculum as prescribed for teacher trainees. During their junior and senior years, the courses that are required in their major and minor subjects will largely coincide with those required for first and second teaching fields for high-school teachers. At the same time they will complete the required work in Education as prescribed in the teacher-training program.

Students who desire to meet these combined requirements will need to plan their study programs very carefully. To avoid loss of time, they should signify their interest in teacher certification as early in their college course as possible.

Lower Division:

The following lower-division course programs are suggested (not required) for pre-English majors. Students preparing to teach will be advised on the correlation of these suggestions with the two-year general course program required of them.

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	English 3 or 5	3	English 4 or 6	3
Foreign Language	3	Foreign Language	3	Foreign Language (if needed)	3	Foreign Language (if needed)	3
Lab. Science	4	Lab. Science	4	English 13*	2	History 53	3
English 3 or 5	3	English 4 or 6	3	History 52	3	Mil. or Air Sci.	2
Mil. or Air Sci.	2	Mil. or Air Sci.	2	Electives**	3-6	Phys. Ed.	1
Phys. Ed.	1	Phys. Ed.	1	Mil. or Air Sci.	2	Electives	6-9
				Phys. Ed.	1		
	16		16		17		18

*Or equivalent course. (For sophomores, English 9, 14, 16, 17, or 18: for juniors, English 115 or 125.)

**To prepare for a minor subject, or to satisfy requirements of the teacher-training program.

Upper Division:

A student admitted to the upper division in English may choose either of two majors: Major in English Literature; Major in English and American Literature.

I. The program of a Major in English Literature will include the following:

A. Specific Requirements:

1. English 142. Shakespeare. 3 hr.
2. English 234. Chaucer. 3 hr.
3. English 230. History of the English Language, 3 hr.; or English 127. The American Language. 2 hr.

B. Nine hours to be chosen from the following courses:

1. English 138. English Literature, 1660-1744. 3 hr.
2. English 139. English Literature, 1744-1798. 3 hr.
3. English 140. Elizabethan Poetry and Prose. 3 hr.
4. English 141. Literature of the 17th Century. 3 hr.
5. English 249. The Romantic Movement. 3 hr.
6. English 257. Victorian Poetry. 3 hr.
7. English 258. Victorian Prose. 3 hr.

C. Three hours to be chosen from the 100 and 200 course offerings in American literature.

II. The program of a Major in English and American Literature will include the following:

A. Specific Requirements:
   1. English 142
   2. English 234
   3. English 230 or 127

B. Nine hours to be chosen from 100 and 200 course offerings in American literature.

C. Three hours to be chosen from courses 138, 139, 140, 141, 249, 257, and 258, as listed under I, B.

Courses of Instruction

Lower Division

O. English Composition. I, II. 3 hr. Three class hours weekly. Required of all candidates for the Bachelor's Degree in all colleges. Advanced sections are provided for students who make exceptionally high grades on the Freshman English placement test. Not open to upperclassmen. Staff

1. Composition and Rhetoric. I, II. 3 hr. Primarily for freshmen. Required of all candidates for the Bachelor's Degree in all colleges. Advanced sections are provided for students who make exceptionally high grades on the Freshman English placement test. Not open to upperclassmen. Staff

2. Composition and Rhetoric. I, II. 3 hr. Continuation of English 1. Primarily for freshmen. Required of all candidates for the Bachelor's degree in all colleges. Advanced sections are provided for students who make exceptionally high grades on the Freshman English placement test. Not open to upperclassmen. Staff

3. Survey: English Literature. I, II. 3 hr. English authors from Beowulf to Burns and readings from their works. Upperclassmen may substitute English 163 for this course. Staff

4. Survey: English Literature. I, II. 3 hr. English authors from Robert Burns to present and readings from their works. Upperclassmen may substitute English 164 for this course. Staff

5. American Literature. I, II. 3 hr. American authors with readings from their works to 1870. Staff

6. American Literature. I, II. 3 hr. American poetry and prose from 1870 to the present. Continuation of English 5. Staff

9. Composition and Reading (for pre-Law students). I. 3 hr. Expository writing and readings of literary types in an anthology of poetry and prose. Mrs. S. Holden

10. Composition and Reading. (for pre-Law students). II. 3 hr. Argumentation and the logical basis for argumentation together with readings in an anthology. Mrs. S. Holden

13. Expository Writing. I, II. 2 hr. PR: English 1 and 2. Extensive practice in the various types of expository writing together with the study of techniques. Staff

14. Argumentative Writing. I, II. 2 hr. PR: English 1 and 2. Logical briefing as applied to argumentative writing and thinking. Staff

16. Creative Writing I. Description. I, II. 3 hr. Exercises in the descriptive process; the practical and aesthetic values of description. Mrs. Reed

17. Creative Writing I. Narration. I, II. 3 hr. The elements of narration; point of view, motivation, and the presentation of character in short narratives; individual assignments and conferences. Mrs. Reed

18. Advanced English Composition (Written and Spoken). I, II. 3 hr. Practice in the organization of thought and in the correct and effective use of the language in writing and speaking, with emphasis on the various types and techniques of exposition. Staff

Upper Division

111. The Research Paper. I, II. 3 hr. Consideration of basic library materials. Recording and organization of data. Documentation. Preparation of a paper in a chosen field. Mr. Anderson

113. Business English. I, II. 3 hr. For majors in Economics and Business Administration. The writing of reports; assembling and analysis of data; business correspondence. Staff

115. Creative Writing III: Narration (Short Story). I, II. 2 hr. Purpose and pattern of the modern short story; study of examples in current periodicals; special assignments and conferences with individual students on a minimum number of short stories. Mrs. Reed

123. Continental Influence on English Literature: The Renaissance. I. 2 hr. Special emphasis on works of Petrarch, Boccaccio, Erasmus, Rabelais, Tasso, Machiavelli, Castiglione. Mr. Anderson

124. Continental Influences on English Literature: The Romantic Period. II. 2 hr. Emphasis on classical and French influences. Staff

125. Advanced Composition. I. 2 hr. Factual writing of articles on subjects of current interest. Mr. Gainer

126. Advanced Composition. I, II. 2 hr. Technical forms of writing designed particularly for students in science, engineering, and agriculture. Mr. Gainer and Mrs. Buswell

127. The American Language. II. 2 hr. Words and their ways in American speech. Mr. Chappell

129. Words. I, II. 2 hr. A practical course in vocabulary building with attention to derivation, history, and meanings of words. Miss Sayre

138. English Literature, 1660-1774. I. 3 hr. A study of the literature from the Restoration to the death of Pope, exclusive of the drama. Mr. Crocker

139. English Literature, 1744-1798. II. A study of the literature from the death of Pope to the publication of Wordworth's *Lyrical Ballads,* exclusive of the drama. Mr. Crocker

140. Elizabethan Poetry and Prose. I. 3 hr. A study of the Renaissance in England as manifested in the great variety of nondramatic literary works of the sixteenth century, with emphasis on the major writers of the reign of Elizabeth. Mr. Brawner, Mr. Draper and Mr. Foster

141. Literature of 17th Century. II. 3 hr. A consideration of the major poets and prose writers of the 17th century, with the exception of dramatic writings. Mr. Brawner, Mr. Mockler and Mr. Foster

142. Shakespeare. I, II. 3 hr. A study of eleven or twelve of Shakespeare's most important plays. Mr. Brawner, Mr. Draper and Mrs. Pettigrew

160. Contemporary Literature, I. 2 hr. A study of modern British and American poets and prose writers—including novelists, short-story writers, dramatists, and essayists. Primary emphasis on the works. Includes Frost, Yeats, Galsworthy, Eliot, Pound, Jeffers, Cather, Anderson, Fitzgerald, O'Neill, D. H.

Lawrence, Huxley, Joyce, and Forster. Chronology is roughly from 1900 to 1925. Mr. Foster

161. Contemporary Literature. II. 2 hr. A continuation of the preceding course from approximately 1925 to the present time. Includes Sandburg, Lindsay, Hart Crane, Wolfe, Faulkner, Evelyn Waugh, Farrell, Steinbeck, Auden, Graham, Greene, Burke, Dylan Thomas, Spender, Robert Lowell, and Koestler. Mr. Foster

163. English Literature. I, II. 3 hr. Survey: English Literature with special reference to the life, personality, ideas and influence of great English authors. May be substituted for English 3 but may not be elected by students who already have credit for English 3. Staff

164. English Literature. I, II. 3 hr. Continuation of English 163. May be substituted for English 4 but may not be elected by students who already have credit for English 4. Staff

166. American Fiction. I. 3 hr. The reading of ten or more of the most important American novels from Hawthorne to the present day, each considered as a work of art reflecting a significant view of life. Lectures on the works of principal authors, with class discussion of particular books. Mr. Brawner

171. Folk Literature in West Virginia. I. 2 hr. Introductory course in folk games, songs, ballads, and stories of the state. Mr. Chappell

173. Poetry. I, II. 2 hr. The appreciation and enjoyment of poems through critical and analytical reading. Studies in the various types of poetry, and of the language, imagery, and techniques of poetic expression. Mr. Brawner

175. The Short Story. I. 2 hr. A study of the historical development of the short story and the schools into which the work of short story writers is divided. Mr. Bishop

180. Bible Literature: Old Testament and Apocrypha. I. 3 hr. The contents of the Old Testament, its literary structure, and its effect upon our literature and thought. Mr. Marks

181. Bible Literature: New Testament. II. 3 hr. The contents of the New Testament, its literary structure, and its effect upon our literature and thought. Mr. Marks

182. Masterpieces of English Literature. II. 3 hr. intensive study of significant literary works. Mr. Crocker

Upper-Division and Graduate Courses

221. Advanced Rhetoric. II. 2 hr. A study of rhetorical techniques in great masterpieces of rhetoric. Mr. Gainer

222. Modern American Biography. I. 3 hr. The best biographies about America's greatest. Miss Page

223. Masterpieces of Biography. II. 3 hr. Several famous biographies of the Western world. Miss Page

224. Literary Criticism. II. 2 hr. Deals with history of literary criticism from Aristotle to modern times. Mr. Crocker

225. Recent Literary Criticism. I, II 3 hr. A brief survey of the theories and essays of the four major schools of modern criticism and an application of these theories to a novel, a play, and to selected poems and short stories. Mr. Foster

226. Early Hebrew Culture and Literature. (Extension). 2 hr. PR: Twelve hours of college English. A study of the Old Testament, Apocryphal writings, and

related literary traditions. For teachers and other mature students. Not for graduate majors in English. Staff

227. Early Christian Culture and Literature. (Extension). 2 hr. PR: Twelve hours of college English. The New Testament, Christian apocryphal writings, and related bodies of literature and thought. For teachers and other mature students. Not for graduate majors in English. Staff

228. Advanced Grammar. I, II. 3 hr. A course in descriptive grammar, the parts of speech, constructions, and methods of diagramming. Mr. Bishop

230. History of the English Language. I. 3 hr. A study of the nature of the language; questions of origins, language families, development relationships of English as one of the Indo-European languages. Mr. Chappell

231. Old English. I. 3 hr. A study of Anglo-Saxon grammar, with selected readings from the literature of the period. Mr. Chappell

234. Chaucer. II. 3 hr. A study of Chaucer's *Canterbury Tales* and *Troilus and Criseyde*. In addition to an understanding and appreciation of Chaucer's literary work, the student is expected to acquire some knowledge of Chaucer's language. Mr. Mockler

235. Shakespeare. I. 3 hr. A course for undergraduates and graduates in the detailed study of three of Shakespeare's major plays. Mr. Draper

236. Old English Poetry. I. 3 hr. Lectures on Pagan and Christian Anglo-Saxon poetry, by far the greatest body of early literature in the Germanic languages, with selected readings in English. Mr. Chappell

237. Metrical Romances. II. 2 hr. A study of medieval romance, Arthur and Charlemagne chronicles and romances, Malory and English romances, religious influences and love and chivalry in the romances. Mr. Chappell

239. Southern Writers. II. 3 hr. Examination of twentieth-century southern essayists, poets, short story writers, and novelists in relation to the ideological background. Mr. Foster

240. Special Topics in American Literature. I, II. 2 hr. Reading in American literature illustrative of American ideals and movements. Miss Sayre

241. American Political Writings. II. 2 hr. A study of writings of American statesmen since 1865. Miss Sayre

242. Literature for Teachers. 3 hr. Study and appreciation of selected works of American authors, with special reference to the high-school curriculum. Given usually in the summer session. Staff

243. Literature for Teachers. 3 hr. Study and appreciation of selected works of English authors. Recommended for teachers of high-school English. Given usually in the summer session. Staff

244. Literature of the Sixteenth Century. I. 3 hr. Renaissance in England as reflected in literature with some consideration of the fine arts and other aspects of culture. Mr. Draper

245. Literature of the Seventeenth Century. II. 3 hr. The struggle between Cavalier and Puritan as reflected in the literature of the age. Mr. Draper

247. Literature of the Eighteenth Century. I. 3 hr. The culture-history of England 1700-1750, as expressed in social, economic, political, and religious movements, and as reflected in literature. Mr. Draper

248. Literature of the Eighteenth Century. II. 3 hr. A continuation of English 247, covering the period from 1750-1800. Mr. Draper

249. The Romantic Movement. I. 3 hr. The works of Wordsworth, Coleridge, Byron, Shelley, and Keats, together with an introduction to works of scholarship in the field of English Romanticism. Mr. Brawner

250. American Romanticism. II. 3 hr. The writings of Ralph Waldo Emerson, Henry David Thoreau, and Nathaniel Hawthorne. A study of the relations of these men to the history of their own time, and of their contributions to American thought and art. Mr. Brawner

252. Modern English Literature, 1881-1918. I. 3 hr. A consideration of the revolt against mechanism, the new romanticism, doctrines of action, and contemporary tendencies. Mr. Crocker

253. Pre-Shakespearian Drama. I. 3 hr. A study of the medieval drama from its beginnings to the middle of the sixteenth century. Mr. Crocker

254. Elizabethan Drama. II. 3 hr. A study of the great dramatists of the Elizabethan period, exclusive of Shakespeare. Mr. Crocker

255. Restoration and Eighteenth-century Drama. I. 3 hr. A study of persistent forms and new developments in the drama of the period. Mr. Crocker

256. Modern Drama. II. 3 hr. A study of world drama from Ibsen to the present day, with particular reference to -isms and ideas. Mr. Crocker

257. Victorian Poetry. I. 3 hr. A study of the major Victorian poets—Tennyson, Browning, Arnold, Rossetti, Morris, Swinburne, Fitzgerald, and a few of the later Victorian poets. Mr. Gainer

258. Victorian Prose. II. 3 hr. A study of the non-fictional writings of the great Victorian prose critics: Carlyle, Ruskin, Arnold, Newman, Macaulay, Huxley, Morris. Mr. Gainer

259. Dramatic Art of Shakespeare. II. 3 hr. A study of several of Shakespeare's histories, comedies, and tragedies, showing the chronological development of his art and matters of stage presentation in Shakespeare's age. Mr. Bishop

260. Studies in Shakespearean Comedy. I, II. 2 hr. PR: English 142, or consent of instructor. Textual and dramatic study of representative comedies. Mrs. Pettigrew

261. Technique of the Drama. I. 2 hr. A study of dramatic structure, with emphasis upon appreciation. Mr. Crocker

263. Study of Selected Authors. I, II. 3 hr. A study of the principal works of English or American authors. Staff

264. Spenser. I, II. 3 hr. A study of Spenser's poetry, minor poems and *The Faerie Queen*, forms and sources, purpose of the great epic, social, political, and religious allegory. Mr. Chappell

265. Pope. I, II. 3 hr. The study of Pope's satirical writings, showing his development as a satirist and the lives of those whom he satirized. Mr. Bishop

266. Browning. I, II. 2 hr. A study of Robert Browning's most important shorter poems and *The Ring and the Book*. Some attention will be given to the life and poems of Mrs. Browning. Staff

267. Milton. II. 3 hr. A study of all of Milton's poems and of a few selected prose works. Mr. Gainer

270. American Poetry. I. 3 hr. A study of the major American poets of the nineteenth and twentieth centuries—Bryant, Poe, Emerson, Longfellow, Whitman, Dickinson, Frost, Eliot. Primary emphasis on their poetry as poetry; background materials minimized. Mr. Foster

271. American Drama. II. 2 hr. A study of the American drama and theatre from the beginning to the present. Staff

272. Folk Literature. II. 3 hr. A study of the folk ballad, its origin, history, and literary significance, based on Child's collection and on American ballad collections. Mr. Gainer

273. The Folktale and Allied Forms. II. 3 hr. The fairy tale and other folktale types, their currency in oral tradition, great collections of folktales, theories of the folktale, and methods of study. Mr. Chappell

274. The Lyric. I, II. 2 hr. A history of lyric poetry with especial attention to the evolution of lyric styles. Mr. Draper

275. The English Novel to the Time of Scott. I. 3 hr. A study of the English novel from the 16th century to the time of Scott, showing the development of the novelistic art from early narrative beginnings. Mr. Bishop and Mr. Anderson

276. The English Novel, 1832-1900. II. 3 hr. A continuation of English 275. The development of the English novel from the early 19th century to the beginning of the 20th century. Mr. Bishop and Mr. Anderson

277. Master Writers of the Essay. II. 3 hr. Reading and discussion of the works of major essayists from Montaigne and Bacon to the present day, together with a study of the historical development of the essay as a literary form. Mr. Brawner

278. Tragedy. II. 3 hr. Masterpieces of tragedy in drama, poetry, and fiction from Greek times to modern, with consideration of the changing concepts of tragedy and of the ethical and ideological values reflected in the works of major tragic authors. Mr. Brawner

279. Satire and Humor. II. 3 hr. The study of the technique and practice of satire and of its relationship to humor. Mr. Bishop

280. The Modern Novel. I, II. 3 hr. A study of technical methods employed by the twentieth century novelists. Thorough consideration of Henry James, Joseph Conrad, James Joyce, and others. Mr. Bishop and Mr. Anderson

286. Modern Women Writers. I. 2 hr. Detailed study of Emily Dickinson, Katherine Anne Porter, Virginia Woolf, and Lillian Hellman. Mr. Anderson

291. Introduction to Literary Research. I, II. 2 or 3 hr. Lectures and exercises in research problems to prepare the student for such work in graduate and professional schools. Mr. Draper

Graduate Division

392. Seminar. I, II. 2 or 3 hr. PR: Specific courses to be approved by the instructor. A graduate study of particular periods or authors. Staff

GEOLOGY, MINERALOGY, AND GEOGRAPHY

Professor Fridley; Associate Professors Ludlum and Wells; Assistant Professors Cross, Heald, and Myers; Instructor Dally

BACHELOR OF SCIENCE IN GEOLOGY

Each candidate for the Bachelor of Science Degree is required to present credit for Geology 266 or its equivalent and must minor in an allied science. A total of 132 hours is required. The following schedule is recommended:

Freshman	*Hr.*	*Sophomore*	*Hr.*	*Junior*	*Hr.*	*Senior*	*Hr.*
Foreign lang.	6	Foreign lang.	6	Geol. 127	2	Geol. 221	
English 1 and 2	6	Geol. 1 and 2	4	Geol. 151	4	and 222	6
Math. 5	3	Geol. 3 and 4	4	Geol. 161	3	Geol. 240	4
Math. 4	3	Chem. 1 and 2	8	Geol. 172	3	Geol. 246	4
Phys. 1 and 3	4	C. E. 1	2	Geol. 184	4	Geol. 271	3
Phys. 2 and 4	4	Mil. or Air		Geol. 185	4	Geol. 272	4
Mil. or Air		3 and 4	4	Geol. 231	4	Electives from	
1 and 2	4	Electives (to com-		Chem. 115	3	the following:	
Phys. Educ.		plete general		Chem. 163	4	E. M. 201	2
1 and 2	2	Arts and Sci-		Electives	3 or 4	Chem. E. 260	3
		ences require-				Geol. 285, 286	8
		ments)	6			Other	
						electives	5 to 7
	32		34		34-35		32-34

Geology 266 (6 hours) will normally be taken in the summer following the junior year. Math. 5, Analytic Geometry, is required in either the sophomore or junior year.

BACHELOR OF ARTS IN GEOLOGY

Requirements for the degree of Bachelor of Arts in Geology are essentially the same as for the Bachelor of Science Degree except that the minor subject need not be a science, and less course material in Engineering is required. Only 128 hours are required for this degree.

Courses of Instruction

GEOLOGY AND MINERALOGY

Lower Division

1. Physical Geology. I, II. 3 hr. Scientific description of composition and structure of earth; physical processes which change earth surface. (Geology 1 must be accompanied by Geology 2 in order to meet the requirements for 4 hours of a laboratory science in physical geology.) Staff

2. Physical Geology Laboratory. I, II. 1 hr. Accompanies Geol. 1. Staff

3. Historical Geology. I, II. 3 hr. PR: Geol. 1. Evolution of earth and its inhabitants. (Geology 3 must be accompanied by Geol. 4 in order to meet requirements for 4 hours of a laboratory science in historical geology.) Mr. Wells

4. Historical Geology Laboratory. I, II. 1 hr. Accompanies Geol. 3. Mr. Wells

Upper Division

125. Geologic Drafting. I, II. 1 hr. PR: Geol. 2 and 4. Staff

127. Map Interpretation. I. 2 hr. PR: Geol. 2 and 4. Relation of earth structure and history to land forms as shown on topographic maps. Mr. Fridley

128. Map Interpretation. II. 2 hr. Continuation of Geol. 127. Mr. Fridley

129. Cartography. I, II. 2 hr. Techniques, principles, and practices in art of map and graph construction. Letter and drawing instruments used in copy and field lay-out work designed for reproduction. Mr. Myers

151. Structural Geology. I. 3 or 4 hr. PR: Geol. 3. Shape and position of rock masses in earth's crust; mechanical principles underlying various types of rock deformation; indication of economic importance of deformed rock structures with respect to recovery of mineral products. Mr. Ludlum

161. Field Geology. II. 3 hr. PR: Geol. 151. An introduction to actual field techniques utilized by geologist in mapping and reporting on geology of unknown regions. Local areas studied in detail. Mr. Dally

170. Natural Resources and Geology of West Virginia. II. 3 hr. PR: Geol. 1 or 107. A summary of geology of the State from a historical and economic standpoint. Staff

172. Economic Geology: Nonmetallics. II. 3 hr. PR: Geol. 184. Occurrence, formation, and use of nonmetallic mineral substances, including ground water, building materials, and chemicals. Mr. Ludlum

184. Mineralogy. I. 4 hr. PR: One year each of geology and chemistry. Elements of crystallography and systematic study of minerals except silicates. Identification of minerals by their physical properties supplemented by blowpipe analysis. Mr. Heald

185. Mineralogy and Petrography. II. 4 hr. PR: Geol. 184. Description, mode of occurrence, and classification of silicate minerals and rocks. Mr. Heald

221. Geomorphology. I. 3 hr. PR: Geol. 151. Study of surface features of eastern United States. Mr. Fridley

222. Geomorphology. II. 3 hr. PR: 151. Continuation of Geol. 221. Surface features of western United States. Mr. Fridley

231. Invertebrate Paleontology. I. 4 hr. PR: Geol. 3 and 4. Invertebrate fossils; their biologic classification, evolutionary development, and use in correlation of strata. Mr. Wells

235. Introductory Paleobotany. I. 4 hr. PR: Geol. 3 and/or Bot. 2. A resume of the development of principal plant groups through the ages, present distribution, mode of occurrence and index species, methods of collection. Mr. Cross

236. Advanced Paleobotany. II. 4 hr. Continuation of Geol. 235. Mr. Cross

239. Seminar in Paleobotany. I, II. 1-2 hr. per semester. PR: Geol 235. Mr. Cross

240. Principles of Stratigraphy. II. 4 hr. PR: Geol. 231. Study of the principles of rock and time correlation, with emphasis on their application to the stratigraphy of West Virginia. Mr. Dally

246. Sedimentation. I or II. 3 or 4 hr. PR: Geol. 184. Origin of sedimentary rocks; principles involved in interpretation of ancient geography, climates, animals, and plants; i.e., basic foundations for stratigraphy. Mr. Dally

266. Field Geology. SI. 6 hr. PR: Geol. 161. Practical experience in detailed geological field procedures and mapping. Living expenses are in addition to tuition and must be paid on or before registering. Staff

271. Economic Geology: Ore Deposits. I. 3 hr. PR: Geol. 172 and 185. Mineral

composition, geologic features, and distribution of deposits of principal useful metallic minerals. Mr. Ludlum

272. Petroleum Geology. II. 3 or 4 hr. PR: Geol. 151. Origin, geologic distribution, methods of exploration and exploitation, uses and future reserves of petroleum and natural gas in world, with special attention to U.S. Mr. Ludlum

274. Seminar in Economic Geology. I, II. 1-2 hr. per semester. PR: Geol. 172. Mr. Ludlum

275. Coal Geology. I. 4 hr. PR: Geol. 4. Study of origin, nature, and distribution of coal deposits. Includes an introduction to microscopic study of coal specimens. Mr Cross

276. Advanced Coal Geology. II. 4 hr. Continuation of Geol. 275. Mr. Cross

285. Optical Mineralogy. I. 4 hr. PR: Geol. 185 and one year of physics. Principles and practice in use of petrographic microscope in identification of minerals. Emphasis on determinations by immersion method. Mr. Heald

286. Petrology. II. 4 hr. PR: Geol. 285. Composition, texture, occurrence, and origin of rocks. Study of hand specimens and thin sections. Mr. Heald

291, 292. Seminar. I, II. 1 hr. Mr. Wells

Graduate Division

329. Problems in Geomorphology. I, II. 1-4 hr. PR: Geol. 222. Mr. Fridley

332. Micropaleontology. II. 4 hr. PR: Geol. 231. Identification of Foraminifera, Bryozoa, and Ostracoda with aid of microscope. Emphasis upon classification, nomenclature, and use of paleontological literature. Mr. Wells

334. Problems in Paleontology. I, II. 1-4 hr. PR: Geol. 231. Mr. Wells

339. Problems in Paleobotany. I, II. 1-4 hr. PR: Geol. 235. Mr. Cross

348. Problems in Sedimentation. I, II. 1-4 hr. PR: Geol. 246. Mr. Dally

349. Problems in Stratigraphy. I, II. 1-4 hr. PR: Geol. 240. Mr. Dally

359. Problems in Structural Geology. I, II. 1-4. PR: Geol. 151. Mr. Ludlum

366. Problems in Field Geology. I, II. 1-6 hr. PR: Geol. 161. Mr. Dally

374. Problems in Advanced Economic Geology. I, II. 1-4 hr. PR: Geol. 271. Mr. Ludlum

376. Problems in Coal Geology. I, II. 1-4 hr. PR: Geol. 276. Mr. Cross

379. Seminar in Coal Research. I, II. 1-2 hr. PR: Consent. Credit 1 hour per semester, maximum credit 2 hours. (In cooperation with other departments and the U.S. Bureau of Mines.) Staff

387. Advanced Petrology. I. 3 hr. PR: Geol. 286. A study of the composition, classification, and origin of the igneous and metamorphic rocks. Laboratory work consists of a study of crystalline rocks mainly by microscopical methods. Mr. Heald

388. Problems in Mineralogy and Petrology. I, II. 1-4 hr. PR: Geol. 286. Mr. Heald

397, 398. Research. I, II. 1-5 hr. Specialized work for advanced students based upon field or laboratory evidence and reported upon in candidacy for advanced degrees. Staff

GEOGRAPHY

Upper Division

107. Introductory Geography. I. 3 hr. Relationship between environment and forms of life; emphasis on physiography and climatology. Mr. Myers

109. Economic Geography. II. 3 hr. Regional method of treating agricultural, industrial, and commercial development of each of various countries of the world. Mr. Myers

116. Geography of North America. II. 3 hr. A regional study of the area north of Rio Grande with interpretation of geographic factors influencing growth, and problems connected with future development. Mr. Myers

118. Geography of Europe. I. 3 hr. Geographic description of continent as a whole, its political divisions, followed by study of individual regions. Mr. Myers

215. Industrial Geography. I. 3 hr. PR: 12 hr. of economics, history, geology. Factors which contribute to development of major industrial regions; detailed analysis of selected industries. Mr. Myers

219. Seminar in Geography. I, II. 1-3 hr. per semester. PR: 12 hr. of economics, history, geology. Mr. Myers

Graduate Division

319. Problems in Geography. I, II. 1-4 hr. PR: 12 hr. of social studies and geology. Mr. Myers

GERMAN

Associate Professor Lemke; Assistant Professor Stillwell; Instructors Cameron (on military leave), Brenneman and Taylor.

The chief objective of the Department is to enable the student to read thoughtful German without the aid of a dictionary. Of German 1, 2, 3, and 4, each is prerequisite to the next following, and the four combined are prerequisite to all other courses except German 111, 112, 121, and 122.

Students majoring in German are advised to base their schedule on upper-division courses from the following subjects, which are listed here in the order of their importance: German, education, English, European history, Romance languages, and modern philosophy. Those who are not planning to teach German may omit the courses in education, but the sequence of subjects, from the angle of their desirability for a major in German remains the same.

Courses of Instruction [33]

Lower Division

1. Elementary German. I, II. 3 hr. Pronunciation, syntax, reading, composition. Staff
2. Elementary German. I, II. 3 hr. Extensive reading. Staff
3. Intermediate German. I. 3 hr. Rapid reading of prose by modern authors. Staff
4. Intermediate German. II. 3 hr. Continuation of German 3. Staff

Upper Division

105. The German Novelle. I. 3 hr. Representative stories of Keller, Meyer, Storm, and Stifter. Mr. Lemke

106. The German Novelle. II. 3 hr. From naturalism to present day. Continuation of German 105. Mr. Lemke

107. Nineteenth Century Drama. I. 3 hr. Critical study of selected dramas by Kleist, Grillparzer, Hebbel, Ludwig. Mr. Lemke

108. Nineteenth Century Drama. II. 3 hr. Continuation of German 107. Mr. Lemke

111. Spoken German. I. 3 hr. Practice in speaking and writing. Mr. Stilwell

112. Spoken German. II. 3 hr. Continuation of German 111. Mr. Stilwell

121. Scientific German. I. 3 hr. Primarily for students in science courses. Staff

122. Scientific German. II. 3 hr. Continuation of German 121. Staff

136. Introduction to Goethe. II. 3 hr. Mr. Lemke

161. Lyric Poetry. I. 3 hr. Mr. Lemke

201. Independent Reading. I. 3 hr. Supervised reading for students who wish to do intensive work in any field of interest. Mr. Lemke

202. Independent Reading. II. 3 hr. Continuation of German 201. Mr. Lemke

211. Middle High German. I. 3 hr. 12 hours of German from upper division. Mr. Stilwell

212. Middle High German. II. 3 hr. Continuation of German 211. Mr. Stilwell

231. Advanced Spoken German. I. 3 hr. PR: German 111 and 112. Additional practice in speaking and writing German. Mr. Stilwell

232. Advanced Spoken German. II. 3 hr. Continuation of German 231. Mr. Stilwell

241. Faust, Part I. I. 3 hr. Critical study of Goethe's *Faust*. Mr. Lemke

242. Faust, Part II. II. 3 hr. Continuation of German 241. Mr. Lemke

244. German Literature Before Goethe. II. 3 hr. A survey of German literature from its beginnings to the middle of the 18th century. Mr. Stilwell

245. Survey of German Literature, 1766-1870. I. 3 hr. Mr. Lemke

246. Survey of German Literature, 1870-1940. II. 3 hr. Mr. Lemke

251. History of the German Language. I. 3 hr. PR: 18 hr. of German or consent. Development since ancient times. Mr. Stilwell

252. German Philology. II. 3 hr. PR: German 251 or consent. Comparison of old Germanic dialects and literatures. Mr. Stilwell

272. The Romantic Movement. II. 3 hr. Mr. Lemke

275. The Modern Novel. I. 3 hr. PR: 18 hr. of German. Supervised reading of nineteenth century. Mr. Lemke

276. The Modern Novel. II. 3 hr. Continuation of German 275, with emphasis on recent fiction. Mr. Lemke

281. Old Norse. I. 3 hr. PR: consent. Elementary study of Old West Norse prose. Mr. Stilwell

282. Old Norse. II. 3 hr. Readings in various Old Icelandic sagas; introduction to Old Norse poetry. Continuation of German 281. Mr. Stilwell

[33]German 1, 2, 3, and 4 each is prerequisite to the next following, and the four combined are prerequisite to all other courses with the exception of German 111, 112, 121, and 122, for which German 1 and 2 are prerequisite.

HISTORY

Professors Summers, Easton, and Ennis; Associate Professors Keen and Smith; Assistant Professors Barns and Cross; Lecturer Lambert

Before graduation history majors are required to complete 18 hours in upper-division courses, including History 276, introduction to historical research and bibliography. Six hours in political science and 6 hours in economics are also required in addition to the special requirements for the A.B. Degree. Students who expect to major in history should complete the following subjects, or their equivalents, in their first and second years; English, 6 hours; French or German, 12 hours; history, 12 hours, which should include History 52 and 53 and may include one year's work in either Humanities or Social Sciences general courses; laboratory science, 8 hours; political science, 6 hours; and economics, 6 hours. In planning work in history, students should consult the department in order that advanced courses may be properly correlated as well as suited to individual needs and tastes. One lower-division "year course" or equivalent in history is prerequisite for a major, but prospective majors are advised to take two such courses or History 52 and History 53 and one year of Humanities or Social Sciences general courses.

Courses of Instruction

Lower Division[34]

1. World Civilization from the Earliest Times to the Reformation. I, II. 3 hr. For freshmen. The development of social, economic, and political institutions. Mr. Easton, Mr. Ennis, and Miss Smith

2. World Civilization from the Reformation to the Present. I, II. 3 hr. For freshmen. Continuation of History 1. Mr. Easton, Mr. Ennis, and Miss Smith

52. Growth of American Nation to 1865. I, II. 3 hr. Primarily for sophomores. Mr. Barns, Mr. Cross, Mr. Keen, and Mr. Summers

53. Making of Modern America, 1865 to Present. I, II. 3 hr. Primarily for sophomores. Mr. Barns, Mr. Cross, Mr. Keen, and Mr. Summers

Upper Division

101.	History of Ancient Times: Stone Age to Fall of Rome.* I. 3 hr.	Mr. Easton
106.	Medieval Europe: Fall of Rome to Renaissance.* I. 3 hr.	Mr. Easton
107.	French Revolution.* I. 3 hr.	Mr. Easton
108.	Napoleonic Era.* II. 3 hr.	Mr. Easton
114.	The Renaissance and the Reformation.* II. 3 hr.	Mr. Easton
133.	British Civilization to 1689. I. 3 hr.	Miss Smith
134.	British Civilization since 1689. II. 3 hr.	Miss Smith
150.	West Virginia. I, II. 3 hr.	Mr. Lambert
151.	American Colonial History. I or II. 3 hr.	Mr. Cross

*PR: One college course in European history, or consent of instructor.

[34]All first and second-year courses are offered as lower-division "year courses." These courses run through the year, but in no case is the first half-year a prerequisite for the second half. For example, History 1 is not a prerequisite for History 2. History 1 and History 2 make up the introductory first year in history. History 52 and 53 are primarily for sophomores. A freshman should not take more than one "year course" at a time.

152. The Growth of American Nationalism, 1763-1850. I or II. 3 hr. Mr. Cross

164. History of Asia. I. 3 hr. Mr. Ennis

179. American Economic History to 1865. I. 3 hr. Mr. Barns

180. American Economic History since 1865. II. 3 hr. Mr. Barns

181. The American Labor Movement. II. 3 hr. Mr. Barns

207. Cultural Europe, 1600-1800. I or II. 3 hr. PR: For seniors and graduate students with one year of European history, or with consent. Mr. Easton

208. Cultural Europe, 19th Century. I or II. 3 hr. Continuation of Hist. 207. Mr. Easton

213. Social and Economic Development of Modern Europe, 1750-1870. I. 3 hr. PR: History 1 and 2, or consent. Miss Smith

214. Social and Economic Development of Modern Europe Since 1870. II. 3 hr. Continuation of History 213. Miss Smith

218. The Second World War. II. 3 hr. PR: Same as for History 207. Mr. Easton

219. History of Russia from Varangians to Bolsheviks. I. 3 hr. PR: Same as for Hist. 207. Mr. Easton

220. Latin-American History: Colonial Period and Wars of Independence. I. 3 hr. PR: For seniors and graduate students with one year of history, or consent. Mr. Keen

221. Latin America Since 1824. II. 3 hr. Continuation of Hist. 220. Mr. Keen

222. The Hispanic Background of American History. I, II. 3 hr. For seniors and graduate students, or with consent. Mr. Keen

231. The British Empire. I. 3 hr. PR: Hist. 134 or consent. Miss Smith

234. Social and Economic History of Modern England. I or II. 3 hr. PR: Hist. 134. Miss Smith

236. English Constitutional Growth. I or II. 3 hr. Hist. 133. Miss Smith

241. Europe from Sedan to Versailles. I. 3 hr. PR: Hist. 1 and 3 or equivalent. Mr. Ennis

242. Europe from Versailles to Nuremberg. II. 3 hr. Continuation of Hist. 241. Mr. Ennis

249. The Westward Movement to 1820. I. 3 hr. PR: Hist. 52 and 53 or equivalent. Mr. Cross

250. Economic and Social Development of West Virginia. I or II. 3 hr. PR: Consent. Primarily for teachers. Staff

254. Trans-Mississippi West. II. 3 hr. Continuation of Hist. 249. Mr. Cross

255. The Jacksonian Era. II. 3 hr. PR: Hist. 52. Mr. Cross

256. The Old South. I, II. 3 hr. For seniors and graduate students, or with consent. Mr. Summers

257. The American Civil War. I, II. 3 hr. For seniors and graduate students, or with consent. Mr. Summers

258. Reconstruction and National Development, 1865-1898. II. 3 hr. For seniors and graduate students, or with consent. Mr. Summers

259. The United States from McKinley to the New Deal, 1898-1933. I. 3 hr. PR: Seniors and graduate students, or consent. Mr. Barns

259. Recent American History. I or II. 3 hr. For senior and graduate students, or with consent. Mr. Barns

260. American Diplomacy to 1898. I. 3 hr. Hist. 52 and 53 or equivalent. Mr. Keen

261. American Foreign Policy and Diplomacy, 1898-1947. II. 3 hr. Continuation of Hist. 260. Mr. Keen

262. Problems of the Pacific. II. 3 hr. PR: Hist. 164. Mr. Ennis

263. Anglo-American Diplomatic Relations. I. 3 hr. PR: For seniors and graduate students, or with consent. Mr. Keen

264. The United States and Latin America, 1783-1947. II. 3 hr. PR: For seniors and graduate students, or consent. Mr. Keen

265. American Constitutional Development to 1860. I. 3 hr. PR: History 52 and 53 or equivalent. Mr. Lambert

266. American Constitutional Development since 1860. II. 3 hr. Continuation of History 265. Mr. Lambert

269. Recent America. II. 3 hr. Continuation of History 259. Mr. Barns

270. Partition of Asia. I or II. 3 hr. PR: Hist. 164. Mr. Ennis

271. Problems in Contemporary Europe. I or II. 3 hr. Continuation of History 242. Mr. Ennis

276. Introduction to Historical Research and Bibliography. I, II, 3 hr. This course prescribed in fourth year for all history majors. Mr. Summers

277. The Literature of American History. I or II. 3 hr. Open to graduate students in history and to seniors majoring in history. Staff

282. History of American Agriculture. I or II. 3 hr. PR: History 52 and 53, or consent . Mr. Barns

290. Growth of American Thought Before 1865. II. 3 hr. For seniors and graduate students, or with consent. Mr. Cross

291. Growth of American Thought Since 1865. II. 3 hr. For seniors and graduate students, or with consent. Mr. Cross

Graduate Division

301, 302. Thesis. I, II. 2 or 3 hr. each semester. Staff

303, 304. Research. I, II. 6 hr. each semester. Staff

310 Topics in American Intellectual History. I. II. 3 hr. Mr. Cross

320. Social and Political Thought of Latin America. I or II. 3 hr. Mr. Keen

321. Contemporary Latin America. I or II. 3 hr. Mr. Keen

349, 350. Problems in Local and Regional History. I, II. 3 hr. each semester. Mr. Barns and Mr. Summers

351. American Colonial Institutions. I or II. 3 hr. Mr. Barns

360. Rise of Nationalism in Asia. I or II. 3 hr. Mr. Ennis

361. Contributions of Asia to Western Civilization. I or II. 3 hr. Mr. Ennis

378. Historians of the United States. I or II. 3 hr. Staff

379. Great Historians of Europe. I or II. 3 hr. Staff

384, 385. Problems in British Imperialism and World Politics. I, II. 3 hr. each semester. Miss Smith

389. Problems in Revolutionary Europe, 1763-1815. I or II. 3 hr. Mr. Easton

390. Problems in European Diplomacy. I or II. 3 hr. Mr. Easton

391. German Ideology from Herder to Hitler. I or II. 3 hr. Mr. Easton

HOME ECONOMICS

Professor Noer (Adviser) and Staff

The degree of Bachelor of Arts with a major in Home Economics is offered by the College of Arts and Sciences. Courses for this program of study are provided by the College of Arts and Sciences and by the College of Agriculture, Forestry, and Home Economics. In order to qualify for this degree, a student must meet the general requirements for the A.B. degree as outlined on page 120. The general courses listed below are taught by the Home Economics staff of the College of Agriculture, Forestry, and Home Economics and are approved for fulfillment of the requirements of a major in the College of Arts and Sciences.

Careers in home economics are open to practically every type of girl: the artistic, the businesslike, the science minded, the teacher, and the homebody. Students who elect home economics as a major will find it possible to prepare at the same time for homemaking and a profession. The knowledge and experience gained in pursuing a course in home economics also will help the student to become an efficient, understanding, and happy homemaker.

A student desiring to obtain a high-school teaching certificate in the field of Home Economics should inform her adviser at the beginning of the first semester so that a proper program may be planned. For specific information in regard to certification for teaching, see the bulletin *Requirements Applicable to Degrees and Certificates*.

A suggested curriculum:

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	English	3	Speech	3
Phys. Science or Psychology	4	Phys. Science or Psychology	4	Foreign language	3	Foreign language	3
History 1 or Humanities 1	3 4	History 2 or Humanities 2	3 4	Home Ec. 12	3	Home Ec. 23	2
Home Ec. 1 or Home Ec. 2	2	Home Ec. 3 or Home Ec. 4	2	Home Ec. 3	2	Home Ec. 15	4
Foreign language	3	Foreign language	3	*Electives	5	*Electives	4
Phys. Ed.	1	Phys. Ed.	1	Phys. Ed.	1	Phys. Ed.	1
	15-16		15-16		17		17

*Electives selected with the help of the adviser to meet the personal and vocational needs and interests of the student and at the same time to fulfill the requirements for an A.B. degree.

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Home Ec. 114	2	Home Ec. 106	3
*Home Ec. electives	4-7	*Home Ec. electives	4-6
Minor sequence	2-4	Minor sequence	2-4
*Gen. electives	2-4	*Gen. electives	2-4
	16		16

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
*Home Ec. electives	4-6	Home Ec. electives	4-6
Minor sequence	2-4	Minor sequence	2-4
*Gen. electives	4-8	*Gen. electives	4-8
			16

Courses of Instruction

(Foods and Nutrition)

1. Elementary Nutrition. I, II. 2 hr. Essentials of adequate diet; application with particular reference to needs of college students. Miss Hurst

1A. Elementary Nutrition. I, II. 2 hr. Advanced section of H.E. 1 for those who qualify on basis of placement test. Miss Hurst

1 or 111. Requirements for Normal Human Nutrition. I, II. 3 hr. Lecture and demonstration. Two 2-hr. and one 1-hr. classes per week. Miss Hurst

15. Food Selection and Preparation. I, II, 4 hr. PR: H. E. 1, or consent. Two lectures and two labs. Chemical and physical basis for food preservation with enough experimental work to give an understanding of reasons for recommended procedures in preparation of food products of high quality. Miss Amick

101. Nutrition. I. 3 hr. PR: H.E. 15 or consent. Food needs as affected by such factors as age, sex, and activity; nutritive value of common foods; planning of adequate diets at different cost levels. Miss Hurst

115. Meal Planning, Preparation, and Service. I, II. 3 hr. PR: H.E. 1 and H.E. 15 or consent. One lecture and one 3-hr. lab. Problems in selection and purchase of foods; planning, preparing, and serving of meals, including wise use of time and energy. Miss Amick

121. Nutrition Work with Children. II. 2 hr. PR: H.E. 15, 115, 101 or consent. Problems involved in feeding children optimum diets. Opportunity for students to (1) prepare noon meals for University Nursery School Children; (2) observe a number of hot-lunch programs in and near Morgantown. Miss Hurst

185. Problems in Food. I, II. 1-4 hr. PR. Consent. Primarily designed for students not majoring in home economics. Staff

221. Community Nutrition Problems. I. 2 hr. PR: H.E. 101 or consent. Two hr. of lectures and field work. Includes consideration of organizations and agencies through which these problems may be solved. Primarily designed for students not majoring in home economics.

(Textiles and Clothing)

2. Elementary Clothing. I, II. 2 hr. Problems in selection and construction of clothing. For freshmen and others who do not pass placement test. Miss Stoflet and Miss Noer

12. Intermediate Clothing. I, II. 3 hr. PR: H.E. 2 or exemption of H.E. 2 by placement test. Particular emphasis on high standards of workmanship and evaluation of work and progress. As students develop skill they will be expected to work with increasing independence. Miss Stoflet

17. Textiles. I, II. 3 hr. Lecture and lab combined. Textile fibers and fabrics studied with view to their use in dress and in the home. Characteristics of the major fibers and their suitability to various uses. Study of standard and novelty materials with emphasis on appropriate use and care. Miss Dietrich

32 or 132. Clothing Techniques. II. 2 hr. Not open to home economics majors. Course designed primarily for students not majoring in home economics. Techniques for simple garment construction, remodeling, alteration and repair. Problems adapted to needs of individual students. Especially planned for Arts students and young homemakers. Miss Stoflet and Miss Dietrich

102. Clothing Selection. I, II. 2 hr. PR: H. E. 3, H.E. 2 or consent. Two lectures. Selection of clothing for whole family from viewpoint of design, color, and economy. Clothing inventories and buying plans. Miss Stoflet

117. Textile Buying. II. 2 hr. PR: H.E. 17. Lecture and laboratory combined. Buying of textiles for all types of clothing and for household. At least one field trip required. Miss Dietrich

182. Problems in Clothing Construction. I, II. 1-4 hr. PR: Consent. Staff

(Applied Art)

3. Art Applied to Personal Problems. I, II. 2 hr. Principles of design and color applied so as to help college students meet problems of daily living. Problems may include room arrangement, clothing, design, etc. Miss Palmer

13 or 113. House Decoration. II. 3 hr. For nonmajors. Designed primarily for students who are not majoring in home economics. Two lectures and one lab. Materials and furnishings that go into decoration and furnishing a home, with emphasis on cost, buying, and reconditioning. Miss Palmer

23. Present-Day Housing. I, II. 2 hr. PR: H.E. 3 or consent. Factors to be considered in providing housing for families at different income levels. Special attention to low-cost housing. Factors to be considered in selecting a home and furnishings for families of different income levels. Lab practice in improving rooms, apartments, and houses—using materials commonly found in rural communities and small towns. Miss Palmer

123. Home Planning and Furnishing. I, II. 4 hr. PR: H.E. 23. Two lectures and two laboratories. Fundamentals of wise planning to meet family needs; understanding of house structure and home needs. Discussions on home decorating based on various income levels and suited to various communities and needs. Miss Palmer

133. Home Crafts. I, II. 2 hr. Two labs. Experience in simple crafts, using such materials as leather, plastic, metals, paper, thread, and fabric for creation of useful and beautiful objects. Equipment and materials used are those readily available in home, school, and camp situations. Miss Palmer

233. Costume Design. I. 2 hr. PR: H.E. 3, 12, 117. Techniques of figure and fashion drawing. Problems in designing costumes and ensembles for individuals of various types and ages. Miss Stoflet

(Health and Child Care)

16 or 116. Home Nursing. II. 2 hr. 1 lecture, one 2-hr. lab. Practices to promote family health and caring for minor illnesses. Staff

106. Child Development. I, II. 2 hr. PR: Psych. 1 or 3 or Ed. 55 or 56, H.E. 101. Two lectures. Child from prenatal period to pre-adolescence. University Nursery School used for observing pre-school children. Each girl spends 3 hours a week observing and assisting. Staff

206. Observation and Participation in Nursery School. I, II. 1-2 hr. PR. H.E. 106. Directed experience in working with children in a nursery-school situation. Laboratory and conference. Staff

(Home Management)

14 or 114. Management of Family Living. II. 2 hr. PR: H.E. 4 or consent. Influence of home conditions on families and family members. In considering ways of meeting everyday problems of families, an attempt will be made to apply findings of science and techniques of management in such a way as to help families achieve satisfaction in living. Mrs. Jones

124. Demonstration Techniques. II. 2 hr. PR: Minimum of 4 hours in each of 4 areas of home economics, and consent. Lecture demonstration as means of presenting home economics materials to groups. Development and presentation of demonstrations suitable for secondary schools and for use with adult groups. Miss Plonk

214. Economic Problems of the Home. I, II. 3 hr. PR: 30 hours of H.E., Econ. 1. Economic problems of family. Standard of living, budgeting, and account keeping, buying problems. Value of household production. Providing for future. Miss Plonk

234. Home-Management Laboratory. I, II. 3 hr. PR: H.E. 1, 114, 115. Arranged. Emphasis on satisfying family life and social relationships. Approximately five weeks of home residence, and our hour of discussion each week throughout the semester. Staff

254. Household Equipment. 2 hr. PR: Senior standing. Selection, arrangement, use, and care of equipment for various situations and for different income levels. Laboratory and discussion. Miss Plonk

LIBRARY SCIENCE

Assistant Professor Reese and Staff

Courses in library science are designed to meet the needs of students preparing to qualify for State certification as teacher-librarians in public schools. Certain courses, however, will be of particular value to all students in helping them to find library materials for their class work. The courses "Children's Literature and Story Telling" and "Reference and Bibliography" are of value to all prospective teachers.

No student should select Library Science as a major or teaching field unless he or she has the ability to work well with children and young people and is easily and quickly adapted to new situations. Genuine enthusiasm for and broad knowledge of books are desirable.

Courses of Instruction

Lower Division

1. Using Books and Libraries. I, II. 2 hr. Planned to give a working knowledge of library facilities, particularly of the University Library. Basic reference materials are considered together with simple bibliography making. A general course useful to any student in the University and required for majors in library science. Staff

Upper Division

101. Reference and Bibliography. I 3 hr. Basic reference books, dictionaries, encyclopedias, indexes, year books, and other reference materials are studied and evaluated, with practice in detailed bibliography making. Staff

102. Cataloguing and Classification. II. 3 hr. Fundamental principles of cataloguing and classification, with practical experience in handling all types of books. Problems of teacher-librarians receive special attention. Staff

103. Children's Literature and Storytelling. I, II. 3 hr. Survey: books for children approached through subject units which include folklore, poetry, biography, social studies, science. Aids in book selection, illustration of children's books, nursery and picture books, problems and methods in reading guidance, storytelling technique with practical experience in telling stories. Staff

104. Book Selection. II. 2 hr. Reading and evaluation of representative books in broad subject fields; emphasis on contemporary books and adult reading interests. Practical work in use of selection aids and in oral and written book reviewing. Staff

105. Book Selection for Adolescents. II. 2 hr. Types of literature read by young people of high-school age, methods of directing and stimulating reading intesrests, wide reading and discussion of books in various fields, evaluation of selection aids. For individuals working with teen-age groups. Staff

106. History of Books and Libraries. II. 3 hr. Survey course, including the development of writing, the history of writing materials, the development of the book from early manuscript form, history of printing, printers, illustrators, bindings, and libraries. Staff

107. Administration of School Libraries. I. 3 hr. Management of school libraries: organization of book collection, housing, equipment and maintenance, practice in simple mending and binding processes, planning instruction in use of books; qualifications and duties of librarian, her relation to school library community and to public library. Staff

108. Library Practice. I, II. 3 hr. Field Work: embodies application of techniques in various types of libraries. Visits to libraries in surrounding area. Staff

MATHEMATICS

Professors Davis, and Veihe; Associate Professors Cole, Stewart and Vest; Assistant Professors Cunningham and Peters; Instructors Bauserman, Cochran, Forsythe, Null, and Pollock.

Students majoring in mathematics must complete 18 hours in mathematics beyond calculus, including Mathematics 240, 241, 251, and 252. The minor may be physics or some other subject approved by the adviser. Physics 105, 106, 107, 108 are recommended. French or German or both should be taken by prospective majors while in the lower division.

Courses of Instruction

Lower Division

2. Algebra. I, II. 3 hr. PR: 1 unit of algebra. Not open to students with credit for Math. 8 or 11. Staff

3. College Algebra. I, II. 3 hr. PR: 1½ units of algebra (or Math. 2) and 1 unit of plane geometry. Staff

4. Plane Trigonometry. I, II. 3 hr. PR: 1½ units of algebra (or Math. 2), and 1 unit of plane geometry. Staff

5. Analytic Geometry. I, II. 4 hr. PR: Math. 3 and 4. Staff

6. Arithmetic for Teachers. II. 3 hr. Staff

7. Solid Geometry. I, II. 3 hr. PR: Plane geometry. Staff

8. Elementary Mathematics. I, II. 3 hr. PR: 1 unit of algebra. For students planning to major in Economics or Business Adminstration. Not open to students with credit for Math 2 or 11. Staff

9. Elementary Mathematics. I, II. 3 hr. Continuation of Math. 8. Miss Pollock

10. Plane Trigonometry. II. 3 hr. PR: 1 unit of algebra and 1 unit of plane geometry. Staff

11. Mathematics for Agricultural Students. I, II. 3 hr. PR: One unit of algebra and one unit of plane geometry. Not open to students with credit for Math 2 or 8. Staff

Upper Division

106. Descriptive Astronomy. II. 3 hr. PR: Math. 5. Mr. Bauserman

107. Differential and Integral Calculus. I, II. 4 hr. PR. Math 5. Staff

108. Differential and Integral Calculus. I, II. 4 hr. Continuation of Math. 107. Staff

128. Mathematical Theory of Investment. II. 3 hr. PR: Math. 3. Primarily for students in economics and business administration. Miss Pollock

130. Elementary Theory of Mathematical Statistics. II. 3 hr. PR: Math. 107. Miss Pollock

238. Modern Geomerty. I. 3 hr. PR: Math. 108 or consent of instructor. For high-school teachers. Extension of traditional Euclidean plane geometry. Geometry of points, lines, triangles, and circles; similarity, inversion, and polars. Mr. Cunningham

239. Modern Geometry. II. 3 hr. PR: Math. 108. Introductory concepts of projective geometry. Principle of duality, harmonic sets, cross-ratio, conics, involution, and metric properties of projective figures are considered synthetically. Mr. Cunningham

240. Differential Equations. I, II. 3 hr. PR: Math. 108. First course. Types of ordinary differential equations of first or higher degree and first or higher order. Solutions and applications. Not open to students with credit for Math. 253. Mr. Davis

241. Theory of Determinants and Analytic Geometry of Space. I. 3 hr. PR: Math 108. Properties of determinants; application to analytic geometry of three dimensions. Types of algebraic surfaces, particularly quadric surfaces; different coordinate systems. Mr. Davis

243. Projective Geometry. II. 3 hr. PR: Math. 241. Homogeneous coordinates. Linear one-dimension forms, cross-ratio, complete quadrangle, two-dimensional forms, perspective, circular points and isotropic lines, line equations, conics, plane collineations. Mr. Cunningham

244. Theory of Equations. II. 3 hr. PR: Math. 108. Complex numbers. Division, factorization and other properties of polynomials in a field. Theory of equations in the field of rational numbers; in the field of real numbers. Elimination, resultants, and symmetric functions. Algebraic extensions of a field. Algebraically closed fields. Ruler and compass constructions. Mr. Vest

245. Vector Analysis. I. 3 hr. PR. Math 240 (or 253) and 252. Vector definitions and operations, differentiation, operator del, integration, generalized coordinates, irrotational and solenoidal vectors, electronstatic fields, potentials. Mr. Stewart

246. Introduction to Algebraic Theories. II. 3 hr. PR: Math. 108 or consent

of instructor. Polynomials, elementary transformations on rectangluar matrices, equivalence of forms and matrices, linear spaces, and matric polynominals; groups rings, and fields. Mr. Peters

247. Theory of Numbers. II. 3 hr. PR: Math. 108. Divisibility, distribution of primes, theory of congruences, theory of quadratic residues, arithmetical properties of the roots of unity. Diophantine equations, and the prime number theorem. Mr. Vehse

248. History of Mathematics. I. 3 hr. PR: Math. 5. Ancient Near East arithmetic. Euclid's geometry. Algebras of Babylonians, of Cardano and Tartaglia, non-Euclidean geometry, Descartes work. Continuations of Eudoxus, Newton, and Leibnitz. Mr. Vehse

251. Advanced Calculus. I. 3 hr. PR: Math 108. Partial differentiation, Euler's theorem, Taylor's series, Jacobians; maxima and minima, Lagrange's multipliers; multiple integrals; line and surface integrals. Mr. Stewart

252. Advanced Calculus. II. 3 hr. PR: Math. 251. Continuation of Math. 251, Limits and indeterminate forms; infinite series; improper integrals; applications of uniform convergence; Gamma and Beta functions; Stirling's formula; Fourier series. Mr. Stewart

253. Advanced Course in Applied Mathematics. I. 3 hr. PR: Math. 108. Ordinary differential equations; emphasis on linear equations; infinite series, Fourier series, solutions of ordinary differential equations by infinite series. Applications to engineering problems. Not open to students with credit for Math. 240. Staff

254. Advanced Course in Applied Mathematics. II. 3 hr. PR: Math. 253. Elliptic integrals. Gamma and Bessel functions, partial derivatives, differentiation under integral sign, partial differential equations, vectors, applications to vibrating strings, heat flow, electrical flow. Staff

255. Mathematical Astronomy. II. 3 hr. PR: Math. 106 and 240. Development of the implications of Kepler's Laws and Newton's Law of gravitation. Mr. Davis

Graduate Division

308. Theory of Probability. I. 3 hr. PR: Math. 108. Fundamental concepts, probability curve and integral, adjustment of observations. Combinatorial problems. Binomial, normal, multinomial, and Poisson laws. Distributive functions. Moments and characteristics functions. Limits. Applications. Mr. Vehse

309. Group Theory. II. 3 hr. PR: Math. 246 or consent of instructor. Order, index, coset normal subgroup, factor group, homomorphism; direct product; fundamental theorem of abelian groups; and Jordan-Holder theorem.

311. Point-set Topology. I. 3 hr. PR: Math. 252. Transfinite cardinal numbers, well-ordered sets, transfinite ordinal numbers, closed and perfect sets, measurable point sets in Borel sense; applications to Riemann and Lebseque integrals. Staff

312. Introduction to Combinatorial Topology. II. 3 hr. PR: Math 252. Linear graphs, two-dimensional complexes and manifolds, n-dimensional complexes and manifolds, orientable manifolds. The fundamental group and certain unsolved problems. Staff

313. Advanced Differential Equations. II. 3 hr. PR: Math. 240 and 252. Second-order linear equations, Riccati equations, complex variables. Series solutions. Equations of Fuchsian type, hypergeometric equation, confluence of singularities. Classical equations, applications. Mr. Vest

314. Tensor Analysis. II. 3 hr. PR: Math. 252 and 245. Vector concept developed from standpoint of algebraic invariants, surface geometry, tensor operators, curvature tensor, Ricci and Bianchi identities, applications of tensors to physical phenoma. Mr. Stewart

315. Calculus of Variations. II. 3 hr. PR: Math. 240 and 252. Maximum and minimum value of an integral, shortest distance, the brachistochrone problem, surfaces of revolution of minimum area, conditions for a relative minimum. Applications. Mr. Vehse

351, 352. Algebraic Geometry. I, II. 3 hr. per semester. PR: Math. 243 and 246. Characteristic properties and representations of curves and surfaces; algebraic correspondences; linear systems; enumerative geometry. Mr. Cunningham

353. Linear Algebra. II. 3 hr. PR: Math. 246 or consent of instructor. Review of theory of groups and fields; linear vector spaces including the theory of duality; full linear group; bilinear and quadratic forms; and theory of isotropic and totally isotropic spaces. Mr. Peters

357. Fourier Series and Partial Differential Equations. I. 3 hr. PR: Math. 240 (or 253) and 252. Introductory material, partial differential equations of physics, orthogonal sets; solving boundary value problems by Fourier series and integrals; uniqueness of solutions; Bessel functions, Legendre polynominals. Mr. Vest

358. Operational Methods in Partial Differential Equations. II. 3 hr. PR: Math. 240 (or 253) and 252. Laplace transformation, properties and elementary applications; problems in partial differential equations, complex variable; problems in heat conduction, mechanical vibrations, etc. Sturm-Liouville systems. Fourier transforms. Mr. Vest

360, 361. Differential Geometry and Theory of Surfaces. I, II. 3 hr. per semester. PR: Math. 240, 241, 243. Metric properties of space curves and surfaces by differential methods. Parametric representation, curvature, torsion, trihedrons, geodesics, transformations, conformability, developability, ruled surfaces, etc. Mr. Davis

362, 363. Introduction to Modern Algebra. I. II 3 hr. per semester. PR: Math. 246 or consent of instructor. Review of concepts from set theory and the system of natural numbers; semi-groups and groups; rings, integral domains and fields; extensions of rings and fields; elementary factorization theory; groups with operators; modules and ideals; and lattices. Mr. Peters

364, 365. Theory of Functions of Complex Variable. I, II. 3 hr. per semester. PR: Math. 240, 252. Complex numbers; functions of a complex variable; fundamentals theorems of Cauchy; conformal representation with applications; analytic continuation; calculus of residues, Gamma, Bessel, and elliptic functions. Mr. Vehse

366, 367. Higher Plane Curves. I, II. 3 hr. per semester. PR: Math. 241, 243. Algebraic plane curves. General theory of curves, singularities, relationships, associated curves; detailed study of curves of third and fourth order. Mr. Stewart

372, 373. Line Complexes and Cremona Transformations. I, II. 3 hr. per semester PR: Math. 241 and 243. Line coordinates, null system, systems of complexes, congruences, surface theory, and mapping. Plane Cremona transformations, introduction to general space theory, opportunities for research. Mr. Davis

374, 375. Algebraic Surfaces. I, II. 3 hr. per semester. PR: Math 243. Mapping of quadric, cubic, quartic, and quintic surfaces on the plane; space transformations, equivalence, postulation; curves on a surface, adjoint systems, invariants. Staff

376, 377. Theory of Functions of a Real Variable. I, II. 3 hr. per semester. PR: Math. 240 and 252. Review of elementary point ste concepts. Necessary and sufficient conditions under which operations of previous analytical subjects are valid. Different theories of integration. Mr. Velse

379. Seminar in Coal Research. I, II. 1-2 hr. PR: Consent. Credit 1 hour per semester, maximum credit 2 hours. (In cooperation with other departments and the U.S. Bureau of Mines.)

380. Thesis. I, II. 3 hr. Staff

NURSING EDUCATION

Associate Professor Oswald; Lecturer Babcock

The Department of Nursing Education provides an advanced professional curriculum which enables graduate nurses to function more effectively in the application of democratic principles in the supervision and administration of efficient programs in hospital nursing units and in schools of nursing.

Nursing Education has as its main objectives the preparation of students to meet the challenges presented in the varied, important, and increasing activities in the expanding field of health; the development in students of a wide interest in social and professional problems, with an ability to share in their solution for an increased and enriched professional usefulness; and the preparation of students for democratic leadership and creative service through varied types of guided learning experiences in Nursing Education.

Bachelor of Science in Nursing Education

Admission Requirements: Applicants for admission to the Department of Nursing Education must: (1) Meet the requirements for admission to the College of Arts and Sciences; (2) be graduated from state accredited school of nursing; (3) be registered in one state or hold a temporary permit pending registration; (4) have experience in institutional, public health, or private-duty nursing; and (5) take a graduate nurse qualifying examination, the results of which will be used to plan individual programs and as a guide to advanced standing.

Advanced Standing: Graduates of accredited schools of nursing may matriculate for this degree with advanced standing. Advanced standing may be granted for the following: (1) Basic nursing program in an accredited school of nursing. Each student's record will be evaluated individually and advanced standing given according to the content and quality of classroom and clinical instruction and experience. An official transcript of the school of nursing record must be sent to the Registrar. Student's who desire to matriculate with advanced standing should request a School of Nursing transcript form when they apply for admission. Thirty semester hours represent the average advanced standing allowed for a satisfactory course of study in a hospital school of nursing. (2) Military credit—basic, eight and advanced, twelve nonduplicate semester hours may be allowed for military service in World War II upon presentation of separation papers to the Registrar. (3) Credit for required courses completed in other accredited colleges or universities may be accepted for credit. Official transcript of records of work must be sent to the University Registrar by the other college, university, or school of nursing.

Program Requirements: Candidates for the degree of Bachelor of Science in Nursing Education are required to complete at least 128 semester hours of credit with 256 grade points. The Nursing Education major includes at least 24 semester hours of professional courses, 50 semester hours of general academic, scientific, education, and social subjects; a total of 52 semester hours of upper-division courses, including the 24 hours required for the major, the 9 hours required for the minor, and the electives necessary to total 128 semester hours required for a Bachlor of Science degree. With departmental approval, certain courses in education, sociology, social care work, or psychology, may be counted toward the major in Nursing Education.

REQUIRED COURSES

1. *General Education Courses Required*:

English Composition 1 and 2 or Communication 1 and 2	6 hr.
English (any upper-division course)	6 hr.
Foreign Language (Any one foreign language)*	12 hr.
Science (Any one Physical or Biological Science)	8 hr.
Sociology 102 or 1 (and any other upper-division course)	6 hr.
Psychology—1 or 3 (and any other upper-division course)	6 hr.
History 1 and 2 or 52 and 53	6 hr.
(or Humanities 1 and 2—8 hr.)	
	50 hr.

2. *Professional Courses Required*:

101—Introduction to Nursing Education	3 hr.
102—Principles and Methods of Teaching	3 hr.
103—Survey of Trends in Contemporary Nursing	3 hr.
104—Ward Management and Teaching	3 hr.
108—Integration of Social and Health Aspects of Nursing	3 hr.
Electives in Nursing Education	6 hr.
111—Personnel Policies and Practices	3 hr.
Electives in Nursing Education or closely allied courses	6 hr.
	24 hr.

*Or two units for entrance and six hours in the same language.

3. *Major in Nursing Education*: The program leading to the degree of Bachelor of Science in Nursing Education was established to provide an opportunity for more thorough preparation of qualified graduate nurses to administer and supervise nursing services in a hospital unit. Such a program is fundamental to the understanding of administration, teaching and supervision, and serves as a basis for future graduate study, including clinical specialties. The major program offered at present is: "Administration and Teaching in the Head Nurse Unit."

Pre-Nursing Curriculum

Students desiring to prepare themselves for admittance to schools of nursing may follow the curriculum on pages 128-129.

Courses of Instruction

Upper Division

101. Introduction to Nursing Education. I, II. 3 hr. PR: Psychology. Consent. An orientation course designed as an introduction to the philosophy, basic principles, methods and organization underlying all fields of nursing, with emphasis upon teaching, supervision, and administration in schools of nursing. Miss Oswald

102. Principles and Methods of Teaching. II. 3 hr. PR: N.E. 101, Psychology. Consent. A study of basic principles and methods of teaching from the standpoint of Nursing Education, and application to nursing situations, with emphasis on clinical teaching, planning, construction, and evaluation of units of work and instruction. Mrs. Babcock

103. Survey of Trends in Contemporary Nursing. I, II. 3 hr. PR: Consent. Study of recent developments and current professional problems in various fields of nursing and related professions in their relation to the nurse and professional organizations. Miss Oswald

104. Ward Management and Teaching. I, II, S. 3 hr. PR: N.S. 101, Psychology. Consent. An analysis of factors involved in the administration of the hospital ward and the principles of good ward management; a study of the head

nurse's educational responsibilities including supervisory and teaching methods as applied to bedside teaching and total care of the patient in the maintenance of high quality nursing service. Emphasis upon the head nurse's responsibility for personal and professional growth and her civic obligations as a citizen in the community. Evaluation of staff and student performance and techniques applicable to ward management and teaching are discussed. Mrs. Babcock

106. Historical Foundations of Nursing. II. 3 hr. A historical study and review of the origins, aims and growth of nursing, with special emphasis on the development of the professional, public health, educational and international aspects of nursing. Discussion materials wherever possible will be selected on the basis of students' interests. Miss Oswald

107. Guidance in Nursing. I, II. 3 hr. A survey of principles and procedures of guidance applied to the needs and problems confronting students and graduate nurses in hospitals and schools of nursing. To assist administrators, teachers and supervisors in the more effective use of guidance techniques in the interpretation of test data in its relation to selection, orientation, educational, social, and professional adjustments, remedial measures, counseling interviews and individual and group guidance of nursing personnel. Miss Oswald

108. Integration of the Social and Health Aspects of Nursing. I, II. 3 hr. Designed to stress the philosophy and principles underlying the integration of the social and health aspects of nursing. Practical application in the major clinical services. A study of community social and health problems and the function of the medical social service department. Miss Oswald

110. Evaluation Methods in Nursing Education. II. 3 hr. PR: N.E. 101, Psychology. Consent. To provide a better understanding of basic aims and scientific principles of nursing care of the whole patient as a member of society. Underlying educational principles applied to the selection, organization, and evaluation of the units of instruction, and the teaching methods in the introduction to nursing. Staff

111. Personnel Policies and Practices. I. 3 hr. PR: N.E. 101, N.E. 103. Consent. Designed to study the role of the head nurse in the hospital, her privileges and responsibilities in the staff education program, basic committees and group teaching. Mrs. Babcock

112. Nursing Procedures and Routines. II. 3 hr. PR: N.E. 104 or 111, Psychology. Consent. A study of problems involved in the evaluation, construction, and administration of nursing procedures and routines. Mrs. Babcock

113. Legislation and Jurisprudence Affecting Nursing. I, II. 3 hr. A survey of current legislation affecting nursing, including the State Board of Nurse Examiners and other state and federal groups related to nursing. A critical study of jurisprudence and the legal aspects of nursing. Miss Oswald

200. In-Service Education in Nursing. II, S. 3 hr. A study of staff education programs in the various fields of nursing, including orientation programs to institutions, agencies and special services. Staff

201. Growth and Adjustment Related to Health. S. 3 hr. PR: N.E. 101, Psychology 122. Consent. Designed to study the relation of social, intellectual, physical, and emotional development throughout life. Emphasis upon those principles basic to professional nursing practice in all fields. Staff

PHILOSOPHY AND PSYCHOLOGY

Professors Curtis, Cresswell, and Stalnaker; Associate Professor Minor; Assistant Professors Light and Townsend; Instructors Carrier, Cross, Christman, and Davis

PHILOSOPHY

Philosophy has two main functions: (1) critical analysis of basic concepts, ideas, ideals, and beliefs; (2) organization of knowledge, and the development of patterns of tested belief for guidance of individual and institutional conduct.

Courses in philosophy are especially useful: (1) as a valuable background for policy-making positions in government, business, schools, and church; (2) as a preparation for work in the field of religion; (3) as an indispensable foundation for graduate training leading to teaching and research in philosophy; (4) as a general education providing conditions for the organization of knowledge and a clearer recognition of values.

The following courses are recommended to be taken in the first two years by those preparing to major in philosophy: German or French, physics or biology, economics, history or humanities, political science, psychology, and sociology.

With the adviser's approval, certain courses in political, educational or economic theory may be counted toward the major in philosophy.

PSYCHOLOGY

Courses in psychology are designed for one or more of the following ends: to promote a better understanding of human nature and behavior; to lay a foundation for graduate professional training; and to inculcate useful skills of psychological technology.

Students desiring to major in psychology should consult the head of the department before making their decision. The following program, designed to give a broad background, is recommended as preparation for majoring in psychology.

FIRST YEAR		SECOND YEAR	
English 1	English 2	Language 3	Language 4
Language 1	Language 2	Biology 1	Biology 2
Psychology 3	Psychology 4	Psychology 122	Philosophy 4
Humanities 1 or History 1	Humanities 2 or History 2	Mil. or Air or Phys. educ.	Genetics 11
Phys. educ.	Phys. educ.	Electives	Mil. or Air or Phys. educ.
Mil. or Air Sci. 1	Mil. or Air Sci. 2		Electives

Recommended second-year electives are economics, political science, or sociology. Economics 1 and 2 should be taken by those planning to enter personnel work or to minor in economics or business administration.

Courses of Instruction

PHILOSOPHY

Lower Division

4. Introduction to Philosophy. I, II. 3 hr. Staff

Upper Division

106. Logic. I. 3 hr. PR: Phil. 4. An examination of formal reasoning and scientific methods as means for attaining reliable knowledge. Mr. Cresswell

107. Fundamentals of Ethics. I. 3 hr. PR: Phil. 4. Critical study of right and wrong, of good and bad, in personal conduct. Mr. Minor

108. Social Ethics. II. 3 hr. PR: Phil. 4. Critical study of basic principles used to guide institutions of the community. Mr. Minor

110. Philosophy of Science.. II. 3 hr. PR: Philosophy 4, and 8 hr. science. An examination of the methods, presuppositions, and concepts of modern science

For students interested in the influences of science on contemporary thought and society. Staff

112. History of Ancient and Medieval Philosophy. I. 3 hr. PR: Phil. 4. A survey of the period up to Machiavelli. Mr. Cresswell

113. History of Modern Philosophy. II. 3 hr. PR: Phil. 4. Continuation of Phil. 112, ending with German Idealism. Mr. Cresswell

114. Contemporary Philosophy. I. 3 hr. PR: Phil. 4. Critical study of naturalism and supernaturalism. Mr. Minor

115. Contemporary Philosophy. II. 3 hr. PR: Phil. 4. Critical study of humanism, materialism, and oganicism. Mr. Minor

118. Aesthetics. I. 3 hr. PR: Phil. 4. Critical study of principles of art and beauty. Mr. Minor

207. American Philosophy. II, 3 hr. PR: Two courses in Philosophy or consent. This course requires the reading of certain American writers, starting with some of the New England Puritans and concluding with William James. It attempts to clarify an American tradition, concerned chiefly with moral philosophy. Mr. Cresswell

208. Philosophy of Religion. I or II. 3 hr. PR: Two courses in philosophy. An attempt to discover the logically defensible foundations of religion. Staff

212. Medieval Philosophy. II. 3 hr. PR: Phil. 4, 112. One or more philosophers of the Middle Ages. Mr. Cresswell

217. Metaphysics. I or II. 3 hr. PR: Phil. 4, 112, 113. Study of a selected system of philosophy. Staff

218. Epistemology. II. 3 hr. PR: Phil. 4 and 106. Nature, scope, and validity of human knowledge. Mr. Cresswell

221. Axiology. II. 3 hr. PR: Phil. 4 and 107. Critical study of theories of value, including investigation of origin, nature, and growth of value. Mr. Minor

305. Philosophy of History. II. 3 hr. PR: Phil. 4, 106, and consent. Various theories of historical development. Mr. Cresswell

PSYCHOLOGY

Lower Division

1. Introduction to Psychology. I, II. 3 hr. Principles of general psychology for nonmajors. Staff

3, 4. General Psychology. I, II. 4 hr. Open to freshmen. Three hours of lecture and two hours of laboratory a week. Fundamentals of general psychology for majors or those using psychology to satisfy laboratory science requirement. Mr. Curtis and Mr. Townsend

20. Psychology of Personal Efficiency. I, II. 3 hr. For students whose scholastic achievement is below capacity. Diagnosis and remedial practice in areas which hamper personal or academic efficiency. Especially for freshmen and sophomores. Mr. Cross and Staff

Upper Division

110. Applied Psychology. II. 3 hr. PR: Psych. 1 or 3 and 4. Applications of psychology in fields of law, medicine, education, and business. Mr. Cross

114. Psychology in Personnel Work. I. 3 hr. PR: Psych. 1 or 3 and 4. Techniques for selecting and placing personnel; job and worker analysis and classification; interviewing; tests of aptitude, proficiency, temperament, and interest. Mr. Curtis

115. Psychology in Industry. II. 3 hr. PR: Psych. 1, or 3 and 4. Job training, employee appraisal, leadership training, motivation and morale, efficient work methods and conditions, accident prevention, industry and society. Mr. Curtis

116. Social Psychology. I. 3 hr. PR: Psych. 1, or 3 and 4. Mr. Carrier

122. Child Psychology. I. 3 hr. PR: Psych. 1, or 3 and 4. Miss Stalnaker

125. Mental Hygiene. I. 3 hr. PR: Psych. 1, or 3 and 4. Mr. Light

130. Statistical Methods in Psychology. I. 3 hr. PR: Psych. 1, or 3 and 4. Analysis and interpretation of psychological data. Mr. Townsend

132. Psychology of Advertising and Selling. II. 3 hr. PR: Psych. 1 or 3 and 4. Mr. Curtis

201. Physiological Psychology. I or II. 3 hr. PR: Psychology 3, 4, and Zoology 171 or equivalent. The organic basis for psychological activities such as perception, emotion, motivation, and learning. Mr. Townsend

206. Learning and Motivation. I or II. 3 hr. PR: Psychology 3 and 4 or equivalent. Staff

218. Psychology of Personality. I or II. 3 hr. PR: Psych. 1 or 3 and 4. Mr. Light

222. Problems of Adolescence and Adulthood. II. 3 hr. PR: Two courses in psychology or consent. Mr. Light

224. Mental Measurement. I. 4 hr. PR: Psych. 122. Individual testing; theory and practice in Binet and Wechsler intelligence tests. Miss Stalnaker

225. Mental Measurement. II. 3 hr. PR: Psych. 1, or 3 and 4, and 130. Group testing. Miss Stalnaker

226. Advanced Experimental Psychology. II. 2 hr. PR: Psych. 3, 4, 130. Design and conduct experiments; lectures and laboratory. Mr. Townsend

229. Abnormal Psychology. II. 3 hr. PR: One upper-division course in psychology. Miss Stalnaker

234. Problems in Child Psychology. II. 3 hr. PR: Psych. 122, and 224 or 225. Students will select individual problems in child behavior. Miss Stalnaker

236. Psychology of Adjustment. I. 3 hr. PR. Two courses in psychology or consent. Dynamic principles of human personality adjustment. Appraisal and treatment of adjustment problems in student-personnel area. Mr. Cross

238. Clinical Psychology. II. 4 hr. PR: Psych. 224. Miss Stalnaker

240. History of Psychology. II. 2 hr. PR: Psych. 1, or 3 and 4. Mr. Townsend

245, 246. Seminar. I, II. 2 hr. Critical study of selected topics. For seniors and graduates. Staff

250. Practicum in Student-personnel Psychology. II. 3 hr. PR: Psych. 236 or consent. Diagnostic and remedial techniques for dealing with reading and work-study-skill efficiency; and personal-social-emotional adjustment. Mr. Cross

251. Practicum in Student-personnel Psychology. I or II. 1 or 2 hr. Directed practice in student-personnel counseling. Continuation of Psych. 250. Mr. Cross

252. Practicum in Vocational Appraisal. I, II. 3 hr. PR: Consent. Principles and procedures in appraising educational and vocational fitness. Supervised practice in the administration, scoring, and interpretation of educational and vocational guidance tests to college students. Supervised practice in counseling college students presenting educational and vocational problems. Study of the world of work and advanced educational fields usually pursued by college students. Study of the organization and administration of college educational and vocational appraisal centers. Mr. Cross

260. Statistical Methods in Psychology. II. 3 hr. PR: Psych. 130. Sampling and reliability, regression and prediction, linear, partial, and multiple correlation. Required for Master's degree. Mr. Townsend

Graduate Division

301, 302. Special Problems in Research. I, II. 1-3 hr. per semester. Staff

303, 304. Thesis. I, II. 2-3 hr. per semester. Staff

310. Projective Techniques. I or II. 3 hr. PR: Psych. 224, 236, and consent. Survey of the projective techniques used in psychodiagnostics, including the Thematic Apperception Test, the Szondi Test, and the Rorschach Test. Special emphasis will be given the Rorschach Test with supervised practice in administration and scoring. Mr. Light

311. Practicum in Projective Techniques. I or II. 3 hr. PR: Psychology 310 or equivalent. Supervised practice in scoring and interpretation of the Rorschach Ink Blot Test and the Thematic Apperception Test. Mr. Light

316. Counseling and Psychotherapy. I or II. 3 hr. PR: Psychology 224 and 229 or equivalent. Principles underlying Freudian and non-directive therapy, play therapy and psychodrama. Mr. Light

317. Practicum in Counseling and Psychotherapy. I or II. 3 hr. PR: Psychology 316 or equivalent. Supervised experience in psychotherapeutic techniques used by the psychologist in a clinic setting. Mr. Light

330. Systems of Psychology. II. 3 hr. PR: Psych. 1, or 3 and 4, and one course in philosophy. Mr. Curtis

PHYSICS

Professors Colwell, Ford, and Thomas; Assistant Professors Buchanan, Gunton, Ollom, and Williamson; Instructors Andrew, Farr, and Rexroad

Various courses offered in Physics are designed to meet the needs of students in the Colleges of Arts and Sciences, Agriculture, Engineering, and the School of Medicine.

Suggested Curriculum for A.B. with Major in Physics

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Mil. or Air 1	2	Mil. or Air 2	2	Mil. or Air 3	2	Mil. or Air 4	2
P.E.	1	P.E.	1	Math. 107	4	Math. 108	4
Eng.	3	Eng.	3	Physics 109	2	Physics 110	2
Math. 3	3	Math. 5	4	Chem.	4	Chem.	4
Math. 4	3	French or		French or		French or	
Physics 1	3	German	3	German	3	German	3
Physics 3	1	Physics 2	3	Elective	3	Elective	3
		Physics 4	1				
	16		17		18		18

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Math. (200)	3	Math. (200)	3	*Physics (200)	3	*Physics (200)	3
Physics (100)	3	Physics (100)	3	Physics (200)	3	Physics (200)	3
†*Physics (200)	3	†*Physics (200)	3	Physics (200)	3	Physics (200)	3
Elective	3	Elective	3	Elective	3	Elective	3
Elective	3	Elective	3	Elective	3	Elective	3
Elective	2	Elective	2				
	17		17		15		15

*Physics 249, 250 are required and must be taken during the third or fourth year.

†E.E. 250, 251 may be substituted for Physics (200) courses.

Physics (200) means courses numbered from 200 to 299. Similarly for Mathematics (200). All Physics majors should take at least 6 hours of German and 6 hours of French.

Courses of Instruction

Lower Division

1. Introductory Physics. I. 3 hr. PR: Plane geometry and algebra. Required of all agricultural students and all students in the School of Medicine. Must be accompanied by Physics 3. Mechanics, sound, and heat. Staff

2. Introductory Physics. II. 3 hr. PR: Physics 1. Must be accompanied by Physics 4. Electricity, magnetism, and light. Staff

3, 4. Introductory Physics Laboratory. I, II. 1 hr. per semester. Accompanies and is required of all students who take Physics 1 and 2. Mr. Farr and Staff

Upper Division

105. General Physics. I, II. 4 hr. PR: Must have had or be taking calculus. Required of all candidates for engineering degrees and recommended for all students who major in mathematics. Not open to students who have credit for Physics 1. Physics 107 must accompany. Mechanics, sound and heat. Staff

106. General Physics. II. 4 hr. Continuation of Physics 105. Not open to students who have credit in Physics 2. Light, electricity and magnetism. Physics 108 must accompany. Staff

107, 108. General Physics Laboratory. I, II. 1 hr. per semester. Companion courses for Physics 105 and 106. Mr. Farr and Staff

109, 110. A Problem Course in General Physics. I, II. 2 hr. per semester. PR: Must have had or be taking calculus. Open to students who have taken Physics 1, 2, 3, and 4, or equivalent; not open to students who have taken Physics 105, 106, 107, and 108. Mr. Williamson

113, 114. Introductory Radio. I, II. 3 hr. PR: 1 year of college physics. Mr. Andrew

116. Photography. II. 3 hr. PR: 1 year of college physics, 1 year of college chemistry. The physics and chemistry of photography with practical applications. Mr. Farr

117, 118. Meteorology. I, II. 3 hr. per semester. PR: 1 year of college physics. The physical processes underlying observed weather phenomena. Mr. Williamson

221. Light. I. 3 hr. PR: 10 hours of college physics, trigonometry. Work in optical instruments, spectrometry, interferometry, and polarization. Mr. Ford

222. Heat. II. 3 hr. PR: 10 hours of college physics, calculus. Phenomenological study of heat. Staff

225, 226. Introduction to Modern Physics. I, II. 3 hr. per semester. PR: 10 hours of college physics, calculus. Particle analysis, phenomena connected with the structure of the atom. Mr. Ford

231, 232. Theoretical Mechanics. I, II. 3 hr. per semester. PR: 10 hours of college physics, calculus. Theorems and problems in intermediate mechanics. Mr. Colwell

233, 234. Introductory Electricity and Magnetism. I, II. 3 hr. per semester. PR: 10 hours college physics, calculus. Electrostatics, magnetostatics, network analysis, introduction to electrodynamics, and applications. Mr. Rexroad

241, 243, 245, 247. Physics Seminar. I. 1 hr. Open to seniors and graduates. Discussion of modern research in physics. Mr. Colwell

242, 244, 246, 248. Physics Seminar. II. 1 hr. Similar to Physics 241, 243, 245, and 247. Mr. Colwell

249, 250. Intermediate Laboratory. I, II. 3 hr. per semester. PR: 10 hours of college physics, calculus. Detailed techniques in experimental physics. Mr. Ford.

255, 256. Physics Seminar. S I, S II. 2 hr. 10 hours of college physics, 1 year college mathematics. Selected topics in modern physics. Not open to physics majors. Staff

257. Photography. S I. 3 hr. PR: One year of physics or equivalent. Open only to majors in Education. Mr. Farr

258. Light. S II. 3 hr. PR: One year of physics or equivalent. Open only to majors in Education. Mr. Ford

261, 262. Matter and Its Constituents. I, II. 3 hr. per semester. PR: 10 hours of college physics, calculus. Molecular, liquid state, and solid state physics. Mr. Gunton

287, 288. Introduction to Mathematical Physics. I, II. 3 hr. per semester. PR: 10 hours of college physics, calculus. General methods of setting up and solving physical problems. Mr. Thomas

Graduate Division

371, 372. Advanced Classical Mechanics. I, II. 3 hr. PR: Calculus, Physics, 231, 232. The application of advanced mechanics to electron and nuclear motions. Mr. Ollom

379. Seminar in Coal Research. I, II. 1 or 2 hr. PR: Consent. Credit 1 hour per semester, maximum credit 2 hours. (In cooperation with other departments and the U. S. Bureau of Mines). Staff

381, 382. Physical Optics. I, II. 3 hr. per semester. PR: Physics 221, differential equations. (Omitted in 1952-53). Mr. Ford

383, 384. Kinetic Theory of Gases. I, II. 3 hr. per semester. PR: 10 hours of college physics, calculus. Boltzmann distribution, viscosity diffusion, thermal conductivity, specific heat. Mr. Buchanan

385, 386. Quantum Mechanics. I, II. 3 hr. per semester. PR: Physics 225, 226 or equivalent. Schrodinger's equations, hydrogen atom, perturbation, molecular forces. Mr. Thomas

387, 388. Differential Equations of Physics. I, II. 3 hr. per semester. PR: Physics 287, 288, differential equations. Application of differential equations to physical problems. Mr. Thomas

389, 390. Nuclear Physics. I, II. 3 hr. per semester. PR: Physics 226, 226. Theory of nuclear forces, transformation, energy levels. Mr. Buchanan

391, 392. Advanced Electricity and Magnetism. I, II. 3 hr. per semester. PR: Physics 233, 234, differential equations. Wave propagation, electrodynamics of charged particles. Mr. Thomas

397, 398. Research. I, II. 3-6 hr. per semester. PR: Consent of supervising instructor. Mr. Colwell

POLITICAL SCIENCE

Professors Frasure and Sturm; Assistant Professors Mann, Ross, White and Williams; Instructor Gibson.

Students who expect to select political science as their major subject should, while in the lower division, receive credit for Political Science 5 and 106, History 1, 2, 52, 53, and Economics 1 and 2 or Sociology 1. Humanities 1, 2, may be substituted for History 1, 2. Political Science 5, 104, and 106 constitute the basic work in this department and they, or their equivalent, are prerequisite to all courses in the upperdivision. Political Science 104, 106, 219, and 220 are required of all majors. The major requirement is 24 hours in upper-division courses. There should be a first minor of 12 hours in upper-division courses in history or economics and a second minor of 6 hours in upper-division courses in another subject. With approval of the departmental adviser, part of the required work in the major may be taken in the College of Law.

Courses Suggested for Political Science Majors

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	Polit. Sci. 5	3	Polit. Sci. 106	3
Science	4	Science	4	French or		French or	
French or		French or		German	3	German	3
German	3	German	3	History 52	3	History 53	3
History 1 or	3	History 2 or	3	Economics 1	3	Economics 2	3
Humanities 1	4	Humanities 2	4	Psychology 1 or		Philosophy 4	3
Mil. or Air 1	2	Mil. or Air 2	2	Sociology 1	3	Mil. or Air 4 or	2
Phys. educ.	1	Phys. educ.	1	Mil. or Air 3 or	2	Physical educ.	1
				Physical educ.	1	Electives	1 or 2
Max. hr.	17		17		18		18

Courses of Instruction[35]

Lower Division[36]

5. Principles and Practices of Government; American Federal System. I, II. 3 hr. primarily for sophomores. Staff

Upper Division

101. Introduction to Government. I, II. 3 hr. (Exclusively for students in the College of Agriculture). A consideration of the basic principles and operation of national, state, and local government in the United States. Staff

[35]Regular electives for Arts and Sciences students.
[36]Prerequisite to all upper-division work in the department.

104. Contemporary European Governments. I. 3 hr. Emphasis upon Great Britain, France, Italy, and Russia. Comparative analysis is made of constitutions, political structures, and functions. Required of majors. Mr. Ross and Mr. Williams

106. American, State, and Local Government. I, II. 3 hr. Survey of legal basis, structure, and functions of state government and relations of state with its local units and with Federal Government. Required of majors. Miss Mann

107. American City Government. II. 3 hr. Organization, functions, and problems of municipal government and of municipal relations with other levels of government. Miss Mann and Staff

110. The Government and Administration of West Virginia. I, II. 3 hr. A study of the organization and operation of the West Virginia state government. Miss Mann

122. American Constitutional Principles. II. 3 hr. U.S. Constitution as interpreted by Supreme Court. Treatment is analytical rather than historical. Text supplemented by some leading cases. Primarily for pre-Law students. Mr. White

151. Current Problems in American Government. II. 3 hr. PR: Pol. Sci. 105 or consent. This course deals with contemporary problems of the federal government. Required readings will be mostly contemporary newspapers, magazines, and government documents

200. American Political Institutions. I. 3 hr. PR: Pol. Sci. 5 or consent of instructor. Development of Constitution, Congress, Presidency, and Supreme Court as institutions with special attention to current problems and issues. Mr. Sturm

203. Principles and Practices of State and Local Government. 3 hr. PR: Pol. Sci. 5 or equivalent. A study of the structure and functions of state and local government. Miss Mann

207. The Administrative Process. I. 3 hr. PR: Pol. Sci. 5 or consent of instructor. Functions and theory of internal adminstration emphasizing organization and coordination, executive leadership, planning finance, and personnel. Mr. Sturm

208. The Administrative Process. II. 3 hr. PR: Pol Sci. 5 or consent of instructor. Legal basis of administration with attention to public officers, powers, and procedures of administrative authorities, enforcement methods, remedies, and judicial control. Mr. Sturm

210. British Government and Practical Policies. II. 3 hr. Intensive study of British government with emphasis upon both internal and foreign policies, mostly during twentieth century. Mr. Frasure

213. Modern Dictatorships. I. 3 hr. Politically undemocratic governments. Provides background of dictatorships generally, followed by treatment of several modern dictatorships. Mr. Frasure

219. History of Political Thought: Plato to Machiavelli. I. 3 hr. Political theories from Greeks to Sixteenth Century. Required of majors. Mr. Williams

220. History of Political Thought: Machiavelli to the Present. II. 3 hr. PR: Pol. Sci. 219 or consent of instructor. Political theories from Machiavelli to present. Required of majors. Mr. Williams

221. Recent and Contemporary Political Thought. II. 3 hr. PR: Pol. Sci. 219 and 220 or consent of instructor. Political theories from 1850 to present including liberalism, socialism, communism, fascism, and democracy. Mr. Williams

223. International Law. I. 3 hr. Law governing relations between nations, including development of rules, means of enforcement, and conflicts between theory and practice. Mr. White

224. American Political Theory. II. 3 hr. PR: Pol. Sci. 219 and 220 or consent of instructor. A survey of major American political ideas and their influence upon society and government from the seventeenth century to the present. Mr. Williams

225. American Constitutional Law and Theory. II. 3 hr. PR: Pol. Sci. 5 or consent of instructor. Basic principles of American constitutional law as developed through judicial interpretation with special emphasis on constitutional theories and national development. Primarily for seniors and graduate students. Mr. Sturm

230. Political Parties and Electoral Processes. I. 3 hr. PR: Pol. Sci. 5 or consent of instructor. Critical study of functioning of political parties in the United States, including processes of nominating candidates and conducting elections. Mr. Ross

231. Public Opinion and Propaganda. II. 3 hr. PR: Pol. Sci. 5 or consent of instructor. Analysis of techniques of sampling and measuring public opinion; detection of propaganda, its nature and content. Mr. Ross

240. Contemporary Governments of the (British) Commonwealth. II. 3 hr. A comparative study of the nature and development of political ideas and institutions in Canada, Australia, New Zealand, and South Africa with some attention to Eire, India and Pakistan. Mr. Williams

260. International Relations. I. 3 hr. Introduction to contemporary world politics. Just enough background to make present-day international affairs more understandable Mr. Frasure

261. International Relations. II. 3 hr. Emphasis upon international organization with most concern given to agencies created since close of World War II. Some reference to development of international law and League of Nations. (Continuation of Polit. Sci. 260). Mr. Frasure

290. Research Materials and Methods in Political Science. I, II. 2 hr. A study of basic source materials in the various fields of political science and of the techniques and methods of government research. Required of majors. Staff

Graduate Division

301. Methods of Research in Political Science. I. 3-4 hr. Mr. Frasure

302. Methods of Research in Political Science. II. 2-4 hr. Mr. Frasure

303. Selected Problems in International Relations. I. 2-4 hr. Mr. Frasure

304. Selected Problems in International Relations II. 2-4 hr. Mr. Frasure

307. Selected Problems in State and Local Government. I. 2-4 hr. Miss Mann

308. Selected Problems in State and Local Government. II. 2-4 hr. Miss Mann

309. Selected Problems in Public Administration. I. 2-4 hr. Mr. Sturm

310. Selected Problems in Public Administration. II. 2-4 hr. Mr. Sturm

311. Selected Problems in Political Theory. I. 2-4 hr. Mr. Williams

312. Selected Problems in Political Theory. II. 2-4 hr. Mr. Williams

360. Thesis. I, II. 2-6 hr. Staff

ROMANCE LANGUAGES AND LITERATURES

Professors Spiker and Ashburn; Associate Professors Manning and Mitrani; Assistant Professors Herrera, McBride, and Singer; Instructors Frere, Kraus, Simonette, Wade, and Welton.

Courses 1 and 2 or two years of high-school credit will be required for entrance to courses 5, 6, 103, and 104. Usually students who have had two years' study of the language in high school should take courses 5 and 6. Students who have done three years of work in high school should consult the departmental adviser before enrolling.

Students whose grades have consistently fallen below "B" in language work in the lower division should not select Romance Languages as a major subject.

No student who has not completed French 109, 110, at least six hours in courses 115, 116, 118, and French 217 and 231 or Spanish 109, 110, 211, 212, 221, and 222 will be recommended as a teacher of the subjects. The following courses are recommended as a minor if a speaking knowledge of the language is desired: French 103, 104, 109, 110, and 231; Spanish 103, 104, 109, and 110.

Program for Major Students

In order to be recommended by this department for the degree of Bachelor of Arts a student should have completed, in addition to special requirements for the A.B. Degree, at least 24 hours of upper-division courses, in one of the following combinations:

FRENCH: 103, 104, 109, 110, 115, 116, 118, 217, 221, 222, and 231; Spanish or Italian (6 to 12 hours)

SPANISH: 103, 104, 109, 110, 211, 212, 221, and 222; French or Italian (6 to 12 hours)

FIRST YEAR

	Hr.
One Romance language	6
English 1 and 2	6
Laboratory science	8
Mil. or Air science (when required) or Physical Education	2
Humanities I and II or Electives	8 to 14
Maximum hours allowed	36

SECOND YEAR

	Hr.
Two Romance languages or 12 hr. in a single language	12
Mil. or Air science (when required) or Physical Education	2
Electives from the General Course Program and lower-division preparation for minor subjects	18 to 22
	36

THIRD YEAR

French or Spanish 109 and 110 (if not completed in second year).	6
French 115 and 116 or 118 or Spanish 211 and 212	6
Minor subject and electives	22
Maximum hours allowed	36

FOURTH YEAR

French or Spanish 221 and 222	6
French 231 or elective in Spanish	3
Minor subject and electives	27
	36

Courses of Instruction

FRENCH

Lower Division

1. Elementary French. I, II. 3 hr. Staff
2. Elementary French. I, II. 3 hr. Continuation of French 1. Staff
5. Intermediate French. I, II. 3 hr. Reading of modern French prose. Staff
6. Intermediate French. II. 3 hr. Continuation of French 5. Staff

Upper Division

103. Elementary Conversation. I. 3 hr. PR: 6 hours of French or equivalent. Staff
104. La Langue Pratique. II. 3 hr. PR: 6 hours of French or equivalent. Staff
109. Grammar and Pronunciation. I. 3 hr. PR: 12 hours of French or equivalent. For sophomores or juniors. Mr. Mitrani
110. Advanced Conversation. II. 3 hr. PR: French 109 or equivalent. For sophomores and juniors. Mr. Mitrani
115. The Classical School. I. 3 hr. PR: 12 hours of French or equivalent. Mr. Spiker or Mr. Manning
116. Literature of the Eighteenth Century. II. 3 hr. PR: 12 hours of French or equivalent. Mr. McBride
118. Literature of the Nineteenth Century. I. 3 hr. PR: 12 hours of French of equivalent. Mr. McBride
217. French Civilization. I. 3 hr. PR: 12 hours of French. Mr. Spiker
221. The Romantic Movement. I. 3 hr. PR: French 115. Mr. Spiker
222. French Realism. II. 3 hr. PR: French 118. Mr. Singer
226. Literary Criticism in the Nineteenth Century. II. 3 hr. PR: French 221 and 222. Mr. Spiker
229. Literature of the 16th Century. I. 3 hr. PR: 18 hours of French. Mr. Spiker
231. Phonetics and Pronunciation. II. 3 hr. PR: 18 hours of French or equivalent. Mr. Manning
237. Moliere. II. 3 hr. PR: French 115. Mr. Spiker
244. Explication de textes. II. 3 hr. PR: French 109 and 110. Mr. Manning
290. Old French. II. 3 hr. Mr. Manning

Graduate Division

393. Special Topics. I. 3-5 hr. Themes in French Literature and Culture. Staff

SPANISH

Lower Division

1. Elementary Spanish. I, II. 3 hr. Staff
2. Elementary Spanish. I, II. Continuation of Spanish 1. Staff

5. Intermediate Spanish. I. 3 hr. Reading of modern Spanish prose. Staff

6 Intermediate Spanish. II. 3 hr. Continuation of Spanish 5. Staff

Upper Division

103. Elementary Conversation. I. 3 hr. PR: 6 hours of Spanish, or equivalent. Mr. Herrera

104. La Lengua Practica. II. 3 hr. PR: 6 hours of Spanish, or equivalent. Mr. Herrera

109. Grammar and Conversation. I. 3 hr. For sophomores or juniors. Mr. Ashburn

110. Advanced Conversation. II. 3 hr. PR: Spanish 109, or equivalent. Mr. Ashburn

211. Nineteenth Century Literature to 1870. I. 3 hr. PR: Spanish 5 and 6 or equivalent. Mr. Singer

212. Spanish Literature Since 1870. II. PR: Spanish 5 and 6 or equivalent. Mr. Singer

216. Civilization and Culture. II. 3 hr. PR: 12 hours of Spanish or equivalent. Mr. Ashburn

217. Spanish American Literature and Culture. I. 3 hr. PR: Spanish 5 and 6 or equivalent. Mr. Mitrani

218. Spanish American Literature and Culture. II. 3 hr. Continuation of Course 217. PR: Spanish 5 and 6 or equivalent. Mr. Mitrani

221. Literature of the Golden Age. I. 3 hr. PR: 18 hours of Spanish, or equivalent. Mr. Mitrani

222. The Golden Age after Lope de Vega. II. 3 hr. PR: Spanish 221. Mr. Mitrani

223. Estudios de Estilo. I. 3 hr. PR: 18 hours of Spanish, or equivalent. Mr. Ashburn

224. Explicacion de textos. II. 3 hr. PR: 18 hours of Spanish, or equivalent. Mr. Ashburn

291. Cervantes. I., 3 hr. Mr. Singer

295. Sixteenth Century Literature. I. 3 hr. Mr. Ashburn

296. Old Spanish. II. 3 hr. Mr. Ashburn

Graduate Division

392. Special Topics. II. 1-3 hr. Themes in Spanish literature and culture. Staff

ITALIAN

Lower Division

1. Elementary Italian. I. 3 hr. Mr. Simonette

2. Elementary Italian. II. 3 hr. Continuation of Italian 1. Mr. Simonette

5. Intermediate Italian. I. 3 hr. Reading of modern Italian prose. Mr. Simonette

6. Intermediate Italian. II. 3 hr. Continuation of Italian 5. Mr. Simonette

Upper Division

109. Composition and Conversation. I. 3 hr. Mr. Simonette

110. Advanced Conversation. II. 3 hr. Mr. Simonette

115. Italian Literature. I. 3 hr. General survey. Mr. Simonette

116. Italian Literature. II. 3 hr. Continuation of course 115. Mr. Simonette

211. One Italian Author. I. 3 hr. PR: 12 hours of Italian, or equivalent. Mr. Simonette

212. Dante. II. 3 hr. PR: 12 hours of Italian, or equivalent. Mr. Simonette

PORTUGUESE

1. Elementary Portuguese. I. 3 hr. Staff

2. Elementary Portuguese. II. 3 hr. Continuation of Portuguese 1. Staff

SOCIAL WORK

Associate Professor Fulton; Assistant Professors Loomis and Wagle; Lecturers Hobbs, Johnson, Lawless, Layman, Maxwell, Pickett, Pride, Ransom, Rhudy, Sleeth, Van Liere, and Whittlesey.

Purpose

The chief purposes of the Department are: (1) to identify and train qualified young men and women for a career in social work; (2) to provide opportunities for experienced workers to increase their understanding and skills, and widen their professional horizons; (3) to cultivate the full sense of responsibility that the modern social worker must take with respect to the community, state, and nation; (4) to make available to students in education, nursing, recreation, psychology and other related professions an opportunity to study the principles and philosophy of social progress which, having been tested in social work, may be found to have validity and application in other areas of human relationships; and (5) to afford an understanding of social welfare to students who expect to obtain from college a broad general education.

These aims are approached through a graduate curriculum by which students prepare for a professional career; and a preprofessional sequence which is integrated into the undergraduate liberal arts curriculum of the college.

General Statement

Since its inception in 1939 the Department of Social Work has provided curricula and instruction which have been in accord with the best professional school standards. The Department is a member of the American Association of Schools of Social Work, and the curricula have been developed on the basis of the best experience of the Association and its constituent member schools. Faculty members serve on committees of the Association, and in various other ways keep in constant touch with the main currents of thought in professional education today. Of prime importance also, the faculty members keep in touch with needs in practice as seen by the operating agencies.

The practice of social service is one of long standing, and is recognized as a profession. It offers young people varied opportunities for a career of service to individuals and groups, and to communities by organizing to meet the economic and social problems of the day.

There are today almost unlimited opportunities for placement, advancement and promotion, for well-prepared personnel in all fields of social work. Public social services in West Virginia were greatly expanded by the passage of Federal Social Security Act of 1935 and by the West Virginia Public Welfare Law of 1936. In addition, the post-war period has created an unprecedented demand for trained personnel. Case workers and child welfare workers are needed for state public welfare departments and private agencies, medical and psychiatric social workers for hospitals and clinics, social group workers for settlements and community centers, community-organization workers for councils of social agencies, community chests, and a variety of other social work agencies; and administrators for all areas of social work.

The leadership and skills of social workers have also been found effective in employee counseling in private industry and in government services; in health programs; in public housing projects; in school systems as visiting teachers or school social workers; in vocational rehabilitation and in international welfare programs.

THE PROFESSIONAL CURRICULUM

Professional social work education is entirely on a graduate basis. Students who plan a career in social work and who expect promotion and recognition in the profession, must obtain at least one year of graduate work, and should plan to complete full training for the Master of Social Work Degree.

The Department of Social Work offers an approved one-year graduate curriculum leading to the Professional Certificate of Social Work. Also, since July 1, 1950, the full two-year curriculum leading to the Master of Social Work degree is offered. The objective of the graduate curriculum is to enable students to develop the skills with which people are effectively helped to achieve personally satisfying and socially useful lives; and to obtain a comprehensive understanding of welfare programs by which they may assume positions of leadership in the profession.

The program offered in the Department of Social Work has been developed out of a conviction that the core of social work skill and competence is substantially the same in all fields, and that the primary goal of the two-year curriculum is to teach this generic core of knowledge and skills required for competent practice in all areas of social work. In order to implement this educational policy, the course offerings emphasize fundamental principles and methods common to practice in a variety of settings; and throughout the course of study the differences of agency setting and function are considered, particularly with respect to their bearing on social work processes and methods. For example, the four casework courses draw upon basic principles from the fields of child welfare, family counseling, public assistance, medical social work, psychiatric social work, probation and parole, protective services, etc.

In accord with the recommendations of the American Association of Schools of Social Work, the two-year curriculum covers eight basic areas: social casework, social group work, community organization, medical information, psychiatric information, administration, public welfare, and research.

Requirements for the Professional Certificate of Social Work

The Professional Certificate of Social Work is awarded to students who have completed 30 hours of graduate social work courses including 10 semester hours of field work, and who have met all other requirements of the Graduate School. Full-time students can complete the work in 10½ months. The normal schedule consists of one semester of classroom work; a block of full-time field work, one semester in length; and a second classroom period of six weeks.

Requirements for the Master of Social Work Degree

For most students the requirements for the Master of Social Work degree can be met in one year after completion of the requirements for the certificate.

(For further information consult the Department of Social Work *Announcements* or the Graduate School *Announcements).*

Field Work

Field work is required of all candidates for the graduate degrees. It is an integral part of the curriculum; its objective is to provide each student an opportunity to develop skill in practice and to gain a deepened understanding of human behavior, increased self-discipline, insight into his own role in the helping process, and a sense of professional responsibility. Placements are made in county and district offices of the Department of Public Assistance, family service agencies, child-caring agencies

home service departments of American Red Cross chapters, the medical division of Veterans Administration, mental health clinics, and other approved agencies. Assignments are made to the same agency for the entire semester unless in exceptional instances and on the basis of individual needs other plans seem more desirable.

Admission Requirements

Upper Division

Students are admitted to upper division work in the Department of Social Work: (1) who have completed 58 or more semester hours in an accredited educational institution with a total of 12 semester hours in economics, political science, psychology, sociology and history; and (2) who have made written application approved by the Department. Application forms may be obtained from the head of the Department.

When a student is admitted, he may then obtain the third and fourth years of the preprofessional curriculum in the Department of Social Work and, upon completion of this curriculum, provided he meets other University requirements, will be eligible for the Bachelor of Science degree with a major in social work.

Graduate Division

Students are admitted for graduate study in the Department of Social Work who meet all of the following requirements:

1. Graduation with a bachelors' degree from West Virginia University or from another accredited institution.
2. Admission to the Graduate School.
3. Completion of the preprofessional curriculum at West Virginia University; or satisfactory completion of courses in social science, totaling at least 24 semester hours, including not less than 12 semester hours in one of the following fields: economics, political science, sociology, psychology, or history. Students who have not fulfilled these social science requirements may be admitted on condition that they complete them before they become eligible for a graduate degree. The head of the department determines the selection of courses to meet the undergraduate deficiencies.
4. Approval by the Committee on Admissions of the Department, based on satisfactory evidence of personal characteristics which give promise of usefulness in the profession of social work.

Application Procedures

Upper Division

Students in West Virginia University should make application for admission to the Department on forms obtained from the Department. Students from other institutions should (1) request an application blank from the Registrar for admission to the University; (2) request the registrar of the institution previously attended to send a complete official transcript directly to the Registrar of the Universtiy; and (3) make application for admission to the Department of Social Work.

Graduate Division

Written application for admission to the Department of Social Work is made on forms which may be obtained from the Department. All applicants must also apply for admission to the Graduate School on a form supplied by the Registrar. Students from institutions other than West Virginia University must have a complete transcript of their credits forwarded to the Registrar.

Prospective students are requested to make application as far in advance of the date they wish to enroll as is possible. The first-year program is begun in September. Second year students will be admitted to begin work in July (at the beginning of the second summer term) or in September.

Loans and Scholarships

Loan funds and scholarships are available to properly qualified graduate social-work students. For details see Part I.

THE UNDERGRADUATE PRE-PROFESSIONAL CURRICULUM

The preprofessional curriculum emphasizes liberal arts education. It offers, to juniors and seniors in the college, a limited number of social work courses to be taken concurrently with a concentration in the social sciences, based on a lower division foundation of general education. It has been developed for three classes of students: (1) those who are preparing for graduate training in social work; (2) students who wish to qualify for positions for which graduate education is not now required; and (3) students who wish to acquire an understanding of the field of social work as part of their general education, or with a view to service on agency boards, committees and community projects. Social work courses are available also to students from other departments who wish to include knowledge of this field in their preparation for educational counseling, psychology, recreation, etc.

The general plan of the preprofessional social work curriculum is: (a) two lower division years of general education, including beginning courses in the social sciences; (b) two upper division years during which the student concentrates in the social sciences and majors in the Department of Social Work. It is recommended that the student complete, during the four college years, a total of 50 or 60 hours in the social sciences, including political science, economics, sociology, history, social work, and psychology.

Upon the completion of this curriculum and all other requirements of the College of Arts and Sciences, the student will be eligible for a B.S. Degree with a major in social work.

The following courses are *suggested* for the four-year preprofessional curriculum:

FRESHMAN YEAR

First Semester		*Second Semester*	
Biol. 1—General Biology or Psych. 3—General Psychology	4 hr.	Biol. 2—General Biology or Psych. 2—General Psychology	4 hr.
Hum. 1—General Intr. Course	4 hr.	Hum. 2—General Intr. Course	4 hr.
Eng. 1—Comp. & Rhetoric	3 hr.	Eng. 2—Comp. & Rhetoric	3 hr.
Foreign Language	3 hr.	Foreign Language	3 hr.
Phys. Ed. (men and women)	1 hr.	Phys. Ed. (men and women)	1 hr.
Military or Air Science (men)	2 hr.	Military or Air Science (men)	2 hr.

SOPHOMORE YEAR

First Semester		*Second Semester*	
Foreign Language (if needed)	3 hr.	Foreign Language (if needed)	3 hr.
Soc. 1—Intro. to Sociology	3 hr.	Soc. 2—Contemp. Social Prob.	3 hr.
Econ. 1—Prin. of Econ.	3 hr.	Econ. 2—Prin. of Econ.	3 hr.
Psy. 1—Intro. to Psychology	3 hr.	Pol. Sc. 5—Am. Fed. System	3 hr.
Eng. 5—Am. Lit.	3 hr.	Zool. 171—Human Physiol.	4 hr.
Phys. Ed. (women)	1 hr.	Phys. Ed. (women)	1 hr.
Military or Air Science (men)	2 hr.	Military or Air Science (men)	2 hr.

JUNIOR YEAR

First Semester		*Second Semester*	
Soc. 210—Marriage & the Family	3 hr.	S.W. 285—Development of Pub. Social Services	3 hr.
S.W. 230—Hist. of Soc. Work	3 hr.	Soc. 243—Intr. to Anthro.	3 hr.
Soc. 244—Culture & Personality	3 hr.	Pol. Sc. 106—State & Local Government	3 hr.
Genetics 111	2 hr.	Psy. 122—Child Psychology	3 hr.
Electives	6 hr.	Hist. 150—W.Va. History	3 hr.
		Electives	2 hr.

SENIOR YEAR

First Semester		*Second Semester*	
S.W. 212—Field Work Observ.	2 hr.	S.W. 251—Services to Indiv.	3 hr.
S.W. 220—Field of Soc. Wk.	3 hr.	S.W. 260—Prob. of Child Welf.	3 hr.
Soc. 274—Housing	3 hr.	Ag. 271—Agr. Org. in W.Va.	2 hr.
Ec. 105—Pub. Welf. Accounting	3 hr.	Home Ec. 160—Home Mg. & Family Living	3 hr.
Electives	— hr.	Electives	— hr.

Suggested Electives for Juniors and Seniors Majoring in Pre-Professional Social Work.

Econ. 140, 236, 237, 239; Eng. 160-161, 166, 171, 235, 256; Hist. 151, 180, 181, 234, 258, 259; Home Ec. 240; Philos. 107; Pol. Sci. 110, 122, 200, 230, 231; Psych. 116, 125, 218, 222, 229; Soc. 102, 205, 206, 231, 233; Sp. 120, 250.

Courses of Instruction

For fuller description see Department of Social Work *Announcements.*

Prerequisites: Twelve semester hours in social sciences for Social Work courses in the 200 series; 24 semester hours in social sciences, for Social Work courses in the 300 series. Such prerequisite courses may be taken in the following fields: economics, history, political science, general social science, sociology, and psychology. Social Work courses in the 200 series may be offered toward admission requirements for courses in the 300 series.

Upper Division[37]

212. Field-work Observation. I. 2 hr. PR: 12 hr. in social sciences. Field visits to selected social agencies; discussion periods. Staff

220. The Field of Social Work. I, S. 3 hr. PR: 12 hr. in social sciences. Introduction to social work as practiced in various settings; history, scope, organization, problems, and methods. Miss Wagle

230. History of Social Work. I. 3 hr. PR: 12 hr. in social sciences. Development of voluntary social work; designed to give students an understanding of present-day practices and trends. Mr. Loomis

251. Services to Individuals. II, S. 3 hr. PR: S.W. 220 or consent. Approach to understanding of personality; individualized professional service provided by social workers, psychiatrists, teachers, physicians, judges, etc. Miss Wagle

260. Problems of Child Welfare. II, S. 3 hr. PR: 12 hr. social sciences. Principles, problems, and standards of child walfare; services provided by child welfare agencies to children who become delinquent, children who need foster home care, institutional care, adoption, etc. Mr. Fulton

[37]The preprofessional curriculum also includes Agr. 271, Agricultural Economics, II, 2 hr.; Home Ec. 104, Nutrition and Home Management, II, 3 hr.; Soc. 274, Housing, I, 3 hr.; and Soc. 243, Anthropology, II, 3 hr.

285. Development of Public Social Services II, S. 3 hr. PR: 12 hr. in social sciences. Public welfare from the 17th-century poor laws to social security; modern provisions for disadvantaged and incapacitated persons. Mr. Loomis

301. Casework. I. 3 hr. PR: Consent. Principles and methods of casework illustrated by study and discussion of selected cases. Miss Wagle

302. Casework. II, S. 3 hr. PR: S.W. 301, and S.W. 311-312 or consent. Continuation of social work 301. Miss Wagle

303. Introduction to Social Group Work. II. 2 hr. PR: Consent. Beginning principles and methods by which group workers help members to use group relationships for individual growth. Mr. Ransom

304. Community Relationships. I. 3 hr. PR: Consent. Community organization responsibilities of worker, supervisor, and administrator; of councils, chests, direct-service agencies, etc. Mr. Fulton

311, 312. Field. I, II. 5 hr. each. PR: S.W. 301. Field practice in selected social-work agencies under general direction of the faculty. Mr. Fulton and Staff

315. Principles of Psychiatry for Social Work. I. 2 hr. PR: Consent. Emphasis on normal personality development and on mechanisms that individuals utilize to achieve balance and maturity. Mr. Fulton

320. Psychiatric Problems of Casework. II. 2 hr. PR: S.W. 301, 315. Concepts of human growth and personality development applied to social casework. Causes, diagnosis and treatment of psychoses, neuroses, mental deficiencies, as they affect casework. Staff

321. Social Casework III. S. 2 hr. PR: S.W. 302. Analysis of case situations of increasing complexity involving deviate and normal behavior. Case materials drawn from medical, psychiatric, authoritative, child welfare and family service settings. Mr. Fulton

322. Social Casework IV. II. 2 hr. PR: S.W. 331-332. An advanced course primarily concerned with the further development of skill in the casework process. Emphasis is placed on the helping relationship to clients whose practical problem is complicated by difficulties within themselves or their relationships. Mr. Fulton

331, 332. Advanced Field Work. I. 10 hr. (Concurrent, 5 hr. each course.) PR: S.W. 302. Continuation of S.W. 311-312, in a different setting with opportunities for deepening understanding and skill. Mr. Fulton and Staff

351. Social Statistics. I. 2 hr. Critical evaluation and interpretation of social welfare statistics. Collecting and presenting data; tables and graphs; common statistical measures. Mr. Loomis

360. Public Welfare Services. I. 3 hr. PR: Consent. Scope of public welfare; rise of public responsibility; analysis of social insurance and public assistance in the United States. Mr. Loomis

361. Social Welfare Administration. I. 2 hr. PR or Conc.: S.W. 360. Administrative priniciples and processes. Special attention to the practitioner's responsibilities in administration and to relationships among executive, board, staff, and community. Miss Wagle

364. Research Methods. II. 2 hr. PR: S.W. 351 or equivalent. The role of research in social work; sources of secondary data; planning, organizing and conducting a study. Mr. Fulton

371. Medical Information. I. 3 hr. PR: Consent. Ill health as a social problem. Concise information about common diseases and social factors which promote

or retard health. The social worker's responsibility for case-finding, treatment and prevention, and use of community resources.
Medical School Staff, Lecturers, and Mr. Rhudy

380. Advanced Public Welfare. II. 2 hr. PR: S.W. 360. Further examination of modern public welfare services; role of the social worker; current issues in care of the aged, ill, and disabled persons and children. Mr. Loomis

381. Problem Report. I, II, S. 1-3 hr. per semester or term. Total required: 3 hr. PR: S.W. 351. Substantial exploration and discussion of a professionally significant problem involving organization, evaluation and interpretation of quantitative or qualitative data. Required of all candidates for M.S.W. Degree. Mr. Fulton and Staff

390. Seminar. II, S. 2 hr. PR: 30 semester hours in graduate social work training. Selected problems in social work as a profession, including problems in welfare administration. Comparison of basic social work methods. Generic aspects of settings. Mr. Loomis and Staff

SOCIOLOGY

Professor Gibbard; Associate Professor Saposnekow; Assistant Professor Kerr; Instructor Detrick.

The study of sociology should help the student to increase his understanding of the society in which he lives. The work of an undergraduate major in sociology provides basic preparation for teaching social sciences in high schools and for careers in social work and other fields involving interpersonal relations. The study of sociology should be an aid to citizenship and intelligent participation in modern life.

A major in sociology consists of 18 or more hours of upper-division courses including as a rule Sociology 202, *Introduction to Social Research,* Sociology 243, *Introduction to Anthropology,* and Sociology 246, *Types of Sociological Theory.* A course in statistics is strongly recommended. Students may count toward a sociology major Rural Sociology 105, *Rural Life,* and Psychology 130, *Statistical Methods in Psychology.*

Sociology 1 or 102 (or equivalent) is prerequisite to all other sociology courses.

Courses of Instruction

Lower Division

1. Introduction to Sociology. I, II. 3 hr. Basic concepts; fundamental institutions and functions of society. Staff
2. Contemporary Social Problems. I, II. 3 hr. Sociological analysis of current social problems. Mr. Detrick and Mr. Kerr

Upper Division

102. Principles of Sociology. I, II. 3 hr. Analysis of nature and operation of our society; formulation of sociological principles. (A first course mainly for upper-division students. Not for credit by students with credit for Sociol. 1). Mr. Saposnekow

202. Introduction to Social Research. I. 3 hr. Trends in social research; examination of methods and techniques. Mr. Detrick and Mr. Gibbard

205. Urban Sociology. II. 3 hr. Growth of urbanism in the U.S.; population, ecological, status, and institutional aspects of organization of cities; urban problems. Mr. Gibbard

206. Rural Sociology. I. 3 hr. Rural conditions, structures, processes, problems, trends, agencies. Staff

210. Marriage and the Family. I, II. 3 hr. Sociological analysis of the contemporary family and its problems. Mr. Kerr

211. Sociology of Childhood. II. 3 hr. Adjustment of child to American culture. Mr. Kerr

229. Population and Migrations. I. 3 hr. Population theories; growth, composition, and distribution of American population; immigration and cultural pluralism; internal migrations and their consequences. Mr. Gibbard

231. Race Relations. I. 3 hr. Race in the U.S. with emphasis on the American Negro. Mr. Gibbard

233. Criminology. I, II. 3 hr. Explanation of crime and delinquency; critical study of criminal justice, penal methods, and reform movements. Mr. Saposnekow

235. Collective Behavior. I. 3 hr. Analysis of new group formation and behavior following social dislocation; social unrest, crowd behavior, and other forms of social contagion; the public and public opinion; social movements. Mr. Detrick

243. Introduction to Anthropology. II. 3 hr. Biological history of man; analytical study of social organization, culture, and intellectual life of primitive man. Mr. Saposnekow

244. Culture and Personality. II. 3 hr. Significant interrelations between the individual and his culture. Mr. Detrick

246. Types of Sociological Theory. II. 3 hr. Examination of leading schools of sociological thought in our day. Mr. Saposnekow

274. Housing. I. 3 hr. Urban and rural housing conditions in U.S.; proposed solutions; role of public and private action. Mr. Saposnekow

Graduate Division

Prerequisite for all courses in the "300" series: consent of department head.

371, 372. Thesis. I, II. 1-6 hr. Staff

391. General Seminar, I, II. 3 hr. Staff

392. General Seminar. I, II. 3 hr. Staff

393. Seminar in Sociological Research. I, II. 3 hr. Staff

394. Seminar in Sociological Research. I, II. 3 hr. Staff

395. Seminar in Sociological Theory. I, II. 3 hr. Staff

396. Seminar in Sociological Theory. I, II. 3 hr. Staff

SPEECH

Professor Henning; Associate Professors Fear and Jerome; Assistant Professors Anderson, Boyd, Burrows, Cobin and Welden; Instructors Gray, Green, Hall, and Scott.

The curriculum of the Department of Speech is so organized that a student may receive basic training in the cultural and practical aspects of any one or more of six fields of speech: (1) interpretation; (2) public address; (3) radio; (4) speech correction and audiology; (5) teaching; and (6) theatre. In all courses of training in speech skills, professional standards of achievement are emphasized.

Forensic Activities. Intramural and intercollegiate forensics, including debate, oratory, and extemporaneous speaking, receive due attention. Speech tournaments,

trips, and tours as well as campus contests are included in the program. Participation in these activities may lead to membership in Delta Sigma Rho, honorary forensic fraternity.

Theatrical Performances. The University Players, in conjunction with classes in dramatics, present a regular program of plays which affords ample opportunity for student participation. In addition, other public and semi-public performances are scheduled to provide experience for less advanced students. Membership in Alpha Psi Omega may be earned by superior work in connection with various productions.

Radio Programs. The University Radio Theatre produces a half-hour show, broadcast biweekly over Station WAJR. All regularly enrolled students in the University, as well as those majoring in radio work within the Speech Department, are eligible to audition for any of the programs or plays.

Off-Campus Speech Services. The Department of Speech sponsors and furnishes student programs in the form of short plays, speeches, interpretative readings, and debates for off-campus performances before women's and civic clubs, community organizations, and church groups throughout the state.

Major Requirements. The minimum number of hours in speech courses for a major is 36, including the following required courses: 3, 6, 11, 29, 50, 120, 121, and 140. The 12 hours of electives taken in addition to these required courses must all be upperdivision. A total of 40 semester hours in Speech may be counted toward graduation. Included in the major requirements is the passage of the platform test.

Platform Test. During the second semester of the sophomore year each speech major shall demonstrate proficiency in a 15-minute platform test at a time and place designated by the head of the department. Passage of this test shall be prerequisite to continue registration as a speech major. Two tests shall be the maximum allowed any student. A student may petition to have any public platform appearance in which he may have occasion to appear judged as his platform test. Satisfactory passage will fulfill this requirement.

Distribution of Courses

The required courses for speech should be distributed as follows:

Freshman year:	first semester: Speech 3.
	second semester: Speech 29, 50.
Sophomore year:	first semester: Speech 6, 11.
	second semester: Speech 120, 140.
Junior year:	second semester: Speech 121.

Teacher Training. Speech majors who plan to teach speech and all others who have chosen speech as a teaching field should select, in addition to the above, courses in their junior and senior years as follows:

Junior year:	first semester: Speech 161*, 162.
	second semester: Speech 160*. (and 121).
Senior year:	first semester: Speech 221*, 250.
	second semester: Speech 270.†

Lower Division

1. Speech Clinic Laboratory. I, II. 1 or 2 hr. PR: Speech examination in speech clinic and consent. Laboratory course for students with speech defects. Mr. Jerome and Staff

2. Speech Clinic Laboratory. I, II. 1 or 2 hr. PR: Speech 1 and consent. Laboratory course for students with speech defects. Mr. Jerome and Staff

*Advised, but not required, courses.
†Offered in alternate years only.

3. Voice and Diction. I, II. 3 hr. Drills for developing proper breath support and for producing a strong, flexible, resonant voice. Coordination of mind and voice. Phonetics. Voices recorded and analyzed, with corrective exercises prescribed. Open to all students. Staff

6. Acting. I, II. 3 hr. Drills for developing muscular control; for overcoming inhibitions; for rendering the body expressive of thought and emotion. Coordination of mind and body. Open to all students. Mr. Boyd and Mr. Cobin

11. Public Speaking. I, II. 3 hr. PR: English 1 and 2. Study and application of principles of practical public speaking. Training in composition and effective delivery of speeches of developing skill in thinking and speaking before an audience. Staff

13. Public Speaking. I, II. 2 hr. PR: English 1 and 2. For engineering students only. Mr. Scott

29. Oral Interpretation. I, II. 3 hr. Development of mental and emotional responsiveness to printed page. Study of recordings of well-known speakers and readers. Practice in reading all types of literature. Open to all students. Mrs. Fear

50. Theatrical Methods and Practices. I, II. 3 hr. Lecture-laboratory symposium basic to all upper-division theatre courses. Basic techniques and terminologies of acting, scene construction, lighting, properties and costuming, directing, and theatre history. Participation in actual production of University Theatre and Children's Theatre plays gives each student practical experience in producing play. Required of all speech majors. Mr. Cobin

60. Junior Varsity Debate. I. 1-2 hr. Intercollegiate debate training and participation preparatory to varsity team debating. Open to freshmen and sophomores. Mr. Scott

61. Junior Varsity Debate. II. 1-2 hr. Continuation of Speech 60. Mr. Scott

75. Parliamentary Procedure. I, II. 1 hr. Study of and practice in establishing rules of order and methods of conducting meetings, assemblies, societies, etc. Mr. Welden

98, 99. Verse Choir. I, II. 1 hr. Practice in oral interpretation of literature through group speaking. Mrs. Fear

INTERPRETATION

Upper Division

100, 101, 102, 103. Advanced Verse Choir. I, II. 1 hr. PR: Speech 98 or 99 or consent. Training in choric speech for public performance. Mrs. Fear

104. Advanced Oral Interpretation. I. 3 hr. PR: Speech 29. Content and form of various types of literature and advanced techniques for their oral presentation. Mrs. Fear

105. Basic Problems in Interpretation. II. 3 hr. PR: Speech 29 and consent. Designed to deal with individual problems of students in interpretation. Mrs. Fear

113. Advanced Voice and Diction. II. 2 hr. PR: Speech 3 or equivalent. Designed to develop and reinforce correct habits of speech. Adapted to individual needs. Mrs. Fear

200. Art of Storytelling. II. 3 hr. PR: Consent. Principles involved in effective presentation of stories, with practical experience in classroom and before audiences. Stories of all types for adults and children studied. Mrs. Fear

201. Prosody and Interpretation. I. 2 hr. PR: Speech 104 and consent. Forms of poetry, and their interpretation. Mrs. Fear

202. Interpretation of Dramatic Literature. I. 3 hr. PR: Speech 104 and consent. Content and form of dramatic literature and attendant techniques for oral presentation. Mrs. Fear

203. Professional Reading. I. 3 hr. PR: 6 hours of interpretation and consent. Intensive training in interpretation. Designed to meet needs of individual. Full-length public recital prepared and presented. Limited enrollment. Mrs. Fear

204. Interpretation of Prose. II. 2 hr. PR: Speech 104 and consent. Content and form of non-dramatic prose and attendant techniques for oral presentation. Mrs. Fear

205. Theories in Interpretation. II. 2 hr. PR: 6 hours of interpretation and consent. Systems and theories of interpretation in terms of historical development and current practices. Mrs. Fear

PUBLIC SPEAKING

Upper Division

120. Group Discussion. I, II. 3 hr. PR: Speech 11. Theory and practice of various forms of group discussion. Principles, methods, and types of group discussions; application of contemporary problems. Required of all speech majors. Mr. Welden

121. Argumentation and Debate. I, II. 3 hr. PR: Speech 11. Principles of argument, evidence, and reasoning; application to debating. Required of all speech majors. Mr. Welden

123. Advanced Argumentation and Debate. I. 3 hr. PR: Speech 121. Primarily for varsity debaters and Law students. Mr. Welden

124. Advanced Argumentation and Debate. II. 3 hr. Continuation of Speech 123. Mr. Welden

125. Advanced Public Speaking. I. 3 hr. PR: Speech 11. Techniques in composition and delivery of public speeches. Attention to parliamentary procedure. Mr. Scott

220. Speech Composition. II. 3 hr. PR: Speech 11 and consent. Materials of speech, organization, and style; application to delivery. Mr. Scott

221. Persuasion. I. 3 hr. PR: Speech 121 or equivalent and consent. Welding of an audience, securing and holding attention, use of suggestion, influencing belief, psychology of motivation, and dramatization of ideas. Mr. Henning

222. Forms of Public Address. II. 3 hr. PR: Speech 125 and consent. Composition and delivery of oration, political speech, speech of introduction, dedicatory address, and eulogistic speech. Mr. Welden

223. Advanced Group Discussion. 3 hr. (Extension only). Application of the principles and practices of group discussion to classroom teaching, the conference table, committee work, policy-determining groups, and the public forum. Opportunities for participation by members of the class using current national and international problems. Mr. Scott and Mr. Welden

225. Interscholastic Forensics. Summer Session only. 3 hr. PR: Consent. Interscholastic public-speaking activities with emphasis upon types commonly termed original speech, such as debate, oratory, and extemporaneous speaking. Opportunity for performance in each type will be provided. Mr. Welden

235. History of American Public Address. II. 3 hr. PR: Consent. Critical study of leading American speakers, their biographies, speeches, and issues with which they dealt. Mr. Welden

239. Seminar: Problems in Public Speaking. I, II. 3 hr. PR. Consent. Mr. Henning

Graduate Division

330. Classical Rhetoric. I. 3 hr. Critical study of early writings in field of speech, their philosophies of composition, organization, style, and delivery of public speeches, debates, and discussion. Open to advanced senior speech majors and graduate students, with consent. Mr. Henning

331. Medieval and Modern Rhetoric. II. 3 hr. Continuation of Speech 330. Mr. Henning

RADIO

Upper Division

140. Introduction to Radio. I, II. 3 hr. Radio as an industry. Organization of stations—local, regional, and network. FCC regulations. History of broadcasting, its responsibilities, and job opportunities. Required of all speech majors. Miss Anderson

141. Radio Announcing. II. 2 hr. Procedures and routines of announcing. Staff assignments, regulations, logged broadcasting operations, reports, and emergency procedures. Preparation of news and commercial copy. Miss Anderson

142. Radio Acting. I, II. 3 hr. Microphone techniques, analysis of character, mood scene, and situation. Problems of pacing, timing, climax, and projection of character. Participation in Radio Players broadcasts. Miss Anderson

143. Fundamentals of Radio Production. I. 3 hr. PR: Speech 140 or consent. The operation and care of studio and control-room equipment. Nontechnical study of control and transmission of all types of radio programs. Blending of sound, music, and speech in dramatic production. Miss Anderson

144. Continuity Writing. I. 2 hr. Format of all types of radio writing except dramatic scripts. Continuity for music programs, talks, interviews, round-table discussions, forums and variety shows. Miss Anderson

240. Dramatic Radio Writing. I. 3 hr. PR: Speech 141 or consent. Dramatic scripts, documentaries, poetry programs, serial dramas, and children's shows. Scripts are written to be aimed at definite markets or for production by University Radio Players. Miss Anderson

241. Advanced Radio Acting. II. 3 hr. PR: 142 or consent. Specialized study in character and dramatic types, regional and foreign dialects, development of original characterizations for professional audition material. Participation in University Radio Players. Miss Anderson

242. Production Directing. II. 3 hr. PR: Speech 143, or consent. Lecture and laboratory in analysis, casting, rehearsal, and production of talk shows, interviews, round-table forums, popular and classical music shows, variety shows, and dramas. Miss Anderson

243. Introduction to Television. I. 2 hr. PR: Consent. Television industry, its history and development. Problems in production of television shows. Fundamentals of picture transmission. Comparison with radio broadcasting. Miss Anderson

244. Program Planning. II. 2 hr. PR: Speech 140 or consent. Methods of analysis of audience interests and subsequent planning of programs to service advertisers

accounts. Planning of public service, sustaining, and educational programs. Miss Anderson

248. Seminar: Problems of Radio Production. I, II. 3 hr. PR: Speech 142 and 242 or consent. Miss Anderson

249. Seminar: Problems of Station Management and Operation. I, II. 3 hr. PR: 9 hours of radio and consent. Miss Anderson

SPEECH RE-EDUCATION

Upper Division

150. Phonetics. I. 2 hr. Production, perception, transcription, and variations of the speech sounds of the English language. Mr. Gray

250. Speech Correction. I. 3 hr. PR: Consent. General survey of the field of speech correction, adapted for the classroom teacher with emphasis on the recognition and therapy of articulation disorders. Mr. Jerome

251. Speech Anatomy. II. 3 hr. PR: Consent. Anatomical and physiological study of the vocal mechanism. Mr. Jerome

252. Speech Pathology. I. 2 hr. PR: Speech 250 and consent. Theories and therapies of stuttering. Mr. Gray

253. Audiometry. I. 3 hr. PR: Consent. Study of the anatomy of the ear, psychophysics of sound, testing of hearing, and function of hearing aids. Mr. Jerome

254. Advanced Speech Pathology. II. 3 hr. PR: Speech 250 and consent. (Theories of causation and therapies for delayed speech development, cleft palate speech, and cerebral palsy speech.) Mr. Jerome

255. Hard of Hearing Therapy. II. 3 hr. PR: Speech 150 and consent. Theories and methods of teaching lip reading and speech to the hearing handicapped. Mr. Gray

257. Clinical Practice. I, II. 2-3 hr. PR: Speech 252 or Speech 254 and consent. Supervised therapy of the less severe speech and/or hearing problems. Mr. Gray

258. Advanced Clinical Practice. I, II. 2-3 hr. PR: Speech 257 and consent. Supervised therapy of severe speech and/or hearing problems. Mr. Jerome

259. Seminar: Speech Pathology. I, II. 2 hr. PR: 9 hours of speech re-education courses and consent. Mr. Jerome

THEATRE

Upper Division

160. Theatrical Make-up. I. 2 hr. Lecture-laboratory course in art of stage make-up. Practical experience provided by doing make-up for University Players productions. Mr. Burrows

161. Stage Scenery. I. 3 hr. Lecture-laboratory course in problems of planning and building stage scenery. Practical experience provided in the workshop on University productions. Mr. Burrows

162. Play Directing. I. 3 hr. PR: Speech 50. Fundamentals of directing stage play. Emphasis on work of director in relation to actor, stage, business, composition, movement, and rehearsal schedule. Mr. Boyd

163. Stage Lighting. II. 3 hr. Problems and theories of stage lighting, including lectures, demonstrations, laboratory sessions, and practical experience on University productions. Mr. Burrows

164. Theatre Workshop. I, II. 1-3 hr. Laboratory for production of University plays and informal stimulation of interest in creative arts. Open to all students. Mr. Burrows

260. Advanced Acting. II. 3 hr. PR: Speech 6, Speech 50, and consent. Characterization, script analysis, style, theories, and techniques. Designed to meet needs of individual student. Mr Boyd

261. Theatrical Dialects. I. 2 hr. PR: Consent. Study and mastery of 12 common dialects used in theatre and radio. Mr. Boyd

262. Playwriting. II. 3 hr. PR: Speech 50 and consent. Development of creative ability in dramatic composition. Study of techniques and problems of playwright. Of cultural value, but primarily a writing course. Mr. Cobin

263. Scene Design. II. 3 hr. PR: Consent. Lecture and laboratory in theories of scene design for stage, including practical participation in planning scenery for University productions. Open to juniors, seniors, and graduate students. Mr. Burrows

264. Advanced Play Directing. II. 3 hr. PR: Speech 162, either Speech 161 or 164, and consent. Emphasis on work of director as an integrating artist. Display of high level of proficiency in direction of an one-act play required of all students enrolled. Mr. Boyd

265. History of Theatre. I. 3 hr. PR: Speech 50 and consent. Historical survey of theatre from primitive times to present. Includes both oriental and occidental theatres. Mr. Cobin

266. Theatre in Society. II. 3 hr. PR: Speech 50 and consent. Objectives of theatre art, its position in our social structure, philosophy, objectives, and ethical responsibilities of theatre artist. Mr. Cobin

268. Seminar: Problems in Acting and Directing. I, II. 3 hr. PR: Consent. Mr. Cobin

269. Seminar: Problems in Technical Theatre. I, II. 3 hr. PR: Consent. Mr. Burrows

RELATED COURSES

170, 171, 172. Extra-Curricular Speech Activities. I, II. 1-3 hr. PR: Consent of head. Head of department may grant credit for any extracurricular speech activity which is assigned to and directed by member of speech staff. Staff

270. Psychology of Speech. II. 3 hr. PR: 6 hours of psychology and 18 hours of speech. Psychological principles involved in speech situation. Analysis or roles of emotion, habit, learning, judgment, rating, and imagery in speech. Mr. Henning

275. Speech Problems of Children. Summer Session only. 3 hr. PR: Consent. Normal development of speech habits in children. Diagnostic and remedial procedures for speech defective. Relationship between speech and allied activities such as reading, spelling, and disciplinary problems. Mr. Henning

Graduate Division

301. Research Problems and Methods. I. 3 hr. PR: Graduate standing. Required of all candidates for Master's Degree in speech. Mr. Henning

370. Research. I, II. 1-3 hr. PR: Speech 301, a speech seminar, and consent of head of department. For graduate students in speech. Mr. Henning and Staff

375. Independent Study. I, II. 1-3 hr. PR: Speech 301, a speech seminar, and consent of head of department. Open to graduate students in speech who are pursuing independent problems in that field. Mr. Henning and Staff

399. Thesis. I, II. 2-4 hr. Mr. Henning and Staff

The College of Commerce

GENERAL INFORMATION

The College of Commerce of West Virginia University was established by the Board of Governors of the University on November 10, 1951, and will begin its initial year of operation in September, 1952. Courses leading to the bachelor's and master's degrees in business administration and economics have been offered by West Virginia University for many years in the Department of Economics and Business Administration which has been in the College of Arts and Sciences. After September, 1952, the Department of Economics and Business Administration will become the College of Commerce.

Objectives

The primary objective of the College of Commerce is to provide students with training for careers in business and for careers that require extensive training in economics. To achieve this aim, the curricula of the College are so constructed as to provide a broad cultural background; a core group of courses in the various phases of business administration and economics; and specialization in a particular field of business administration or economics.

Undergraduate Program

Undergraduate work is undertaken in two divisions; the lower division, in which Freshmen and Sophomores are enrolled, and the upper division, in which Juniors and Seniors are enrolled. The lower division curriculum is designed to afford students a liberal educational background and to provide a foundation for the work that follows. Students will be admitted to the College of Commerce upon completion of 58 semester hours of required and acceptable elective courses in the lower division curriculum at a grade average of not less than "C."

In order to provide a well-rounded background in the different phases of business or economics, a core curriculum is required. These courses are: Economic Principles, Industrial Management, Business Law, Money and Banking, Accounting, Statistics, Labor Problems, Business Finance, and Marketing. (Certain exceptions are made in the Economics major option.) Since many students do not follow the careers for which they prepare in the University, this background of fundamentals should better enable them, in terms of versatility and adaptability, to meet the changing courses of their careers than does a highly specialized program. Furthermore, it affords a comprehensive educational foundation upon which specialized programs can be built.

Although narrowly specialized training is avoided, major concentration areas are offered. These will permit upperclassmen to acquire a detailed knowledge of those phases that interest them particularly. The major fields of study are as follows: Accounting, Economics, Finance, Management, Marketing, Secretarial Training, and General Business.

Graduate Program

The graduate curriculum (for the Master's Degree) is designed to give qualified students the opportunity to pursue an advanced course of study in one or more specialized fields of business administration or economics. Each student's program is prepared in terms of his academic background and his interests, and is subject to the approval of his adviser.

Bureau of Business Research

The Bureau of Business Research, functioning as an integral part of the College, was organized for the purpose of undertaking research into business and economic problems—particularly those of West Virginia. This research program is undertaken by faculty members of the College of Commerce and by other staff members, under the general supervision of the Director of the Bureau of Business Research.

Publication of a series of monographs, the *West Virginia Business and Economic Studies,* was begun by the Bureau in 1949.

Building and Equipment

The physical facilities of the College of Commerce are modern and adequate. Armstrong Hall, which houses the College, was erected in 1950. It contains excellent classrooms and offices, well-equipped accounting and statistics laboratories, and the Bureau of Business Research.

Placement of Graduates

The faculty placement adviser in the College as well as all staff members will aid qualified graduates to find desirable employment. Graduates have access to the University Placement Office, which serves graduating seniors and alumni.

ADMISSION REQUIREMENTS

Regular Students

Applicants seeking admission to the College of Commerce for the purpose of obtaining a degree must have earned at least 58 semester hours of required and approved elective courses in the lower-division curriculum at a grade average of not less than "C."

REGISTRATION

Pre-Commerce freshmen and sophomores as well as juniors and seniors of the College of Commerce enroll at the beginning of each semester or term of the University.

REQUIREMENTS FOR DEGREES

Bachelor's Degree

The College of Commerce offers the degrees of bachelor of science in Business Administration and bachelor of science in Economics. Candidates for these degrees must have a minimum of 128 semester hours of work and have satisfied the College requirements as to courses and grades (256 grade points) in order to graduate.

A Second Bachelor's Degree

A student who has earned a Bachelor's Degree in one department or college of West Virginia University may become eligible for a second Bachelor's Degree by earning a minimum of 30 semester hours in residence in the College of Commerce and meeting all requirements of the second Bachelor's Degree.

Master's Degree

Candidates for the degrees of master of science in Business Administration and master of arts in Economics must have a minimum of 30 semester hours (approved by advisers) taken as graduate students. A thesis is required of all candidates. The College of Commerce plans to offer a major leading to the degree of master of

science. When available, it will require a somewhat greater concentration of study in the general fields of economics and business administration than does the Master of Arts Degree.

PROGRAMS OF STUDY

Lower Division

Pre-Commerce students are expected to complete the lower-division program of study within the first two years of residence at the University.

FIRST YEAR

Courses	*Hr.*
Eng. 1 and 2	6
Hist. 1 and 2 or Humanities 1 and 2	6 or 8
Laboratory Science[1]	8
Math. 2, 3, or 8	3
Mil. or Air Science 1 and 2	4
P.E. (Service Program)	2
Electives (Men)[2]	6
Electives (Women)[2]	8
Total	35 or 37

SECOND YEAR

Courses	*Hr.*
Accounting 1 and 2	6
Eng. 23	3
Econ. 1 and 2	6
Speech 11	3
Hist. 52 or Pol. Sci. 5	3
Mil. or Air Sci. 3 and 4	4
P.E. (Service Program) Women	2
Electives (Men)[2]	8
Electives (Women)[2]	10
Total	33

Accounting

The accounting program is designed to prepare students for public accounting, and for positions as accountants in business, industry, and government.

JUNIOR YEAR

Courses	*Hr.*
Intermediate Accounting (Accounting 111)	3
Advanced Accounting (Accounting 112)	3
Cost Accounting (Accounting 115)	3
Industrial Management (Man. 111)	3
Statistics (Economics 125)	3
Business Law (Bus. Law 111 and 112)	6
Electives (Group 1)[3]	6
Electives (Group 2)[4]	3
Total	30

SENIOR YEAR

Courses	*Hr.*
Advanced Accounting Problems I (Accounting 113)	3
Business Finance (Finance 111)	3
Money and Banking (Economics 111)	3
Labor Problems (Economics 115)	3
Principles of Marketing (Marketing 111)	3
Electives (Group 1)[3]	6
Electives (Group 2)[4]	6
Electives (Group 1 and 2)	3
Total	30

[1]A laboratory science may be chosen from Biology, Chemistry, Physics, Botany, Zoology, Psychology, Geology, or Physical Science.

[2]Electives may be chosen from courses in the following departments: English, History, Humanities, Mathematics, Philosophy, Political Science, Psychology, Sociology, Speech, or Foreign Language. Students who select a foreign language must complete 6 hours in the same language at the University. Students who plan to major in secretarial studies should schedule Business Communications 61 and 62 in the sophomore year.

[3]Electives in Group 1 are to be selected from course offerings in the College of Commerce with the approval of the adviser. Depending upon their particular areas of interest in accounting, students may select additional accounting courses from the following: Accounting 213, Income Tax Accounting I; Accounting 214, Income Tax Accounting II; Accounting 216, Advanced Cost Accounting; Accounting 217, Auditing Theory; Accounting 218, Auditing Practice; Accounting 220, Accounting Systems; Accounting 221, Accounting for Selected Industries; Accounting 224, Advanced Accounting Problems II; Accounting 230, Accounting Theory.

Economics

This program is designed for those who wish to emphasize economics in their training for business; for those who wish to undertake graduate work for an advanced degree; for those who wish to enter government service; and for those who wish to teach.

JUNIOR YEAR

Courses	*Hr.*
Statistics (Economics 125)	3
Money and Banking (Economics 111)	3
Labor Problems (Economics 115)	3
Business Finance (Finance 111)	3
Economic Theory (Economics 221)	3
Electives (Group 1)[5]	6
Electives (Group 2)[6]	6
Electives (Group 1 or 2)	3
Total	30

SENIOR YEAR

Courses	*Hr.*
Business Finance (Economics 241)	3
Business Cycles (Economics 235)	3
History of Economic Thought (Economics 222)	3
Electives (Group 1)[5]	12
Electives (Group 2)[6]	6
Electives (Group 1 or 2)	3
Total	30

Finance

This program is designed to meet the needs of those students who plan to enter government service or to become associated with the financial or insurance departments of banks or of commercial and industrial organizations.

JUNIOR YEAR

Courses	*Hr.*
Industrial Management (Management 111)	3
Statistics (Economics 125)	3
Business Law (Bus. Law 111 and 112)	6
Business Finance (Finance 111)	3
General Insurance (Finance 115)	3
Money and Banking (Economics 111)	3
Electives (Group 1)[7]	6
Electives (Group 2)[8]	3
Total	30

SENIOR YEAR

Courses	*Hr.*
Problems in Business Finance (Finance 212)	3
Business Cycles (Economics 235)	3
Investments (Finance 150)	3
Labor Problems (Economics 115)	3
Principles of Marketing (Marketing 111)	3
Electives (Group 1)[7]	6
Electives (Group 2)[8]	6
Electives (Group 1 or 2)	3
Total	30

[4]Electives in Group 2 are to be selected with the approval of the adviser from any department in the University other than in the College of Commerce. Students electing advanced Military or Air Science will use electives in groups 1 and 2 in the junior year and electives from group 2 in the senior year.

[5]Electives in Group 1 are to be selected from course offerings in the College of Commerce with the approval of the adviser.

[6]Electives in Group 2 are to be selected with the approval of the adviser from any department in the University other than in the College of Commerce. Students electing advanced Military or Air Science will use electives in groups 1 and 2 in the junior year and electives from group 2 in the senior year.

[7]Electives in Group 1 are to be selected from course offerings in the College of Commerce with the approval of the adviser.

[8]Electives in Group 2 are to be selected with the approval of the adviser from any department in the University other than in the College of Commerce. Students electing advanced Military or Air Science will use electives in groups 1 and 2 in the junior year and electives from group 2 in the senior year.

Management

This program is designed to prepare students for the several types of positions in management, especially those in production control and in industrial relations. Although it does not provide highly technical training for the several types of positions in the field of management, it does provide a foundation upon which specialized training can be developed.

JUNIOR YEAR

Courses	*Hr.*
Statistics (Economics 125)	3
Money and Banking (Economics 111)	3
Business Law (Bus. Law 111 and 112)	6
Labor Problems (Economics 115)	3
Principles of Marketing (Marketing 111)	3
Industrial Management (Management 111)	3
Electives (Group 1)[9]	6
Electives (Group 2)[10]	3
TOTAL	30

SENIOR YEAR

Courses	*Hr.*
Business Finance (Finance 111)	3
Personnel Management (Management 216)	3
Production Management (Management 112)	3
Business Policy (Management 225)	3
Marketing Management (Marketing 112)	3
Electives (Group 1)[9]	6
Electives (Group 2)[10]	6
Electives (Group 1 or 2)	3
TOTAL	30

Marketing

This program is designed to prepare students for positions in the field of distribution. The required and suggested courses include work in the areas of sales management, sales promotion and advertising, marketing research and procurement as carried on by manufacturing, wholesaling, and retailing establishments.

JUNIOR YEAR

Courses	*Hr.*
Business Finance (Finance 111)	3
Statistics (Economics 125)	3
Business Law (Bus. Law 111 and 112)	6
Industrial Management (Management 111)	3
Principles of Marketing (Marketing 111)	3
Marketing Management (Marketing 112)	3
Electives (Group 1)[11]	6
Electives (Group 2)[12]	3
TOTAL	30

SENIOR YEAR

Courses	*Hr.*
Labor Problems (Economics 115)	3
Principles of Advertising (Marketing 120)	3
Principles of Retailing (Marketing 115)	3
Transportation (Economics 225)	3
Money and Banking (Economics 111)	3
Electives (Group 1)[11]	6
Electives (Group 2)[12]	6
Electives (Group 1 or 2)	3
TOTAL	30

[9]Electives in Group 1 are to be selected from course offerings in the College of Commerce with the approval of the adviser.

[10]Electives in Group 2 are to be selected with the approval of the adviser from from any department in the University other than in the College of Commerce. Students electing advanced Military or Air Science will use electives in groups 1 and 2 in the junior year and electives from group 2 in the senior year.

[11]Electives in Group 1 are to be selected from course offerings in the College of Commerce with the approval of the adviser.

[12]Electives in Group 2 are to be selected with the approval of the adviser from from any department in the University other than in the College of Commerce. Journalism 113, Principles of Advertising in the School of Journalism and Psychology 132, Psychology of Advertising and Selling in the College of Arts and Sciences are especially recommended for students interested in the field of advertising. Students electing advanced Military or Air Science will use electives in groups 1 and 2 in the junior year and electives from group 2 in the senior year

Secretarial Studies

This program is designed for students who intend to become secretaries to executives or supervisors of clerical activities in an office.

JUNIOR YEAR

Courses	*Hr.*
Industrial Management (Management 111)	3
Business Law (Bus. Law 111 and 112)	6
Principles of Marketing (Marketing 111)	3
Secretarial Training and Office Practice ((Secretarial Studies 131)	3
Shorthand 1 and 2 (Secretarial Studies 125 and 126)	8
Electives (Group 1)[13]	3
Electives (Group 2)[14]	4
TOTAL	30

SENIOR YEAR

Courses	*Hr.*
Statistics (Economics 125)	3
Labor Problems (Economics 115)	3
Business Finance (Finance 111)	3
Transcription (Secretarial Studies 132)	2
Money and Banking (Economics 111)	3
Electives (Group 1)[13]	9
Electives (Group 2)[14]	4
Electives (Group 1 or 2)	3
TOTAL	30

General Business

A student selecting the General Business Program has a wider choice of electives than does one who selects a more specialized program. This curriculum is recommended to those who have not decided upon a specialized field of study but who desire a well-integrated program in Business Administration.

JUNIOR YEAR

Courses	*Hr.*
Statistics (Economics 125)	3
Principles of Marketing (Marketing 111)	3
Business Law (Bus. Law 111 and 112)	6
Industrial Management (Management 111)	3
Labor Problems (Economics 115)	3
Electives (Group 1)[15]	6
Electives (Group 2)[16]	6
TOTAL	30

SENIOR YEAR

Courses	*Hr.*
Personnel Management (Management 216)	3
General Insurance (Finance 115)	3
Money and Banking (Economics 111)	3
Business Finance (Finance 111)	3
Electives (Group 1)[15]	9
Electives (Group 2)[16]	6
Electives (Group 1 or 2)	3
TOTAL	30

[13]Electives in Group 1 are to be selected from course offerings in the College of Commerce with the approval of the adviser.

[14]Electives in Group 2 are to be selected with the approval of the adviser from any department in the University other than in the College of Commerce. Students electing advanced Military or Air Science will use electives in groups 1 and 2 in the junior year and electives from group 2 in the senior year.

[15]Electives in Group 1 are to be selected from course offerings in the College of Commerce with the approval of the adviser.

[16]Electives in Group 2 are to be selected with the approval of the adviser from any department in the University other than in the College of Commerce. Students electing advanced Military or Air Science will use electives in groups 1 and 2 in the junior year and electives from group 2 in the senior year.

COURSES OF INSTRUCTION

Abbreviations used in the announcements have the following meanings: I, a course given in the first semester; II, a course given the second semester; I, II, a course given each semester; hr., number of credit hours per course; PR: prerequisite.

ACCOUNTING

1. Principles of Accounting. I, II. 3 hr. A study of the accounting cycle, journals and ledgers, working papers, and the preparation of financial and operating statements for individual proprietorships. Staff

2. Principles of Accounting. I, II. 3 hr. PR: Accounting 1. Accounting concepts applicable to partnerships and corporations, including manufacturing concerns; analysis of financial statements and budgets. Staff

5. Accounting for Engineers. I, II. 2 hr. Enrollment limited to engineering students. Staff

111. Intermediate Accounting. I. 3 hr. PR: Accounting 2. Analysis of accounting theory and practice as applied to partnerships and corporations. Mr. Backer

112. Advanced Accounting. II. 3 hr. PR: Accounting 111. Accounting theories applicable to valuation of assets and determination of liabilities. Mr. Lambert

113. Advanced Accounting Problems I. I. 3 hr. PR: Accounting 112. Accounting for consolidations, installment sales, consignments, receiverships, reorganizations, branches, foreign exchange, and estates and trusts. Mr. Backer

115. Cost Accounting. I. 3 hr. PR: Accounting 2. Characteristics of material, labor, and burden costs in factory production; job order and process cost accounting. Mr. Lambert

213, 214. Income Tax Accounting. I, II. 3 hr. per semester. PR: Accounting 112. Bureau of Internal Revenue Regulations and related legal cases; preparation of tax returns for individuals, partnerships, and corporations. Mr. Backer

216. Advanced Cost Accounting. II. 2 hr. PR: Accounting 115. Accounting for standard costs and budgetary control. Mr. Backer

217. Auditing Theory. I. 3 hr. PR: Accounting 112. Procedure required for independent verification of financial statements; the duties and responsibilities of the auditor; the various types of examinations. Mr. Lambert

218. Auditing Practice. II. 2 hr. PR: Accounting 217. Application of the procedures introduced in the previous semester, such as the preparation of audit work papers and reports, analysis of published statements, case studies, discussion of the Statement of Audit Procedure of the American Institute of Accountants. Mr. Lambert

220. Accounting Systems. II. 2 hr. PR: Accounting 112. Installation of accounting systems, particularly as applied to procedure survey, design of accounting forms, use of hand written records, application of business machines, procedure reports. Mr. Lambert

221. Accounting for Specific Industries. I. 2 hr. PR: Accounting 112. Accounting principles and financial reports peculiar to governmental agencies, banks, insurance companies, department stores, public utilities, brokerage houses, etc. Mr. Lambert

224. Advanced Accounting Problems. II. 3 hr. PR: Minimum of 18 hours in accounting with an average grade of "B" or higher. Analysis and solution of representative C.P.A. problems. Mr. Backer

230. Accounting Theory. II. 2 hr. PR: Accounting 112 and consent of instructor. Origin and development of accounting principles and standards. Mr. Backer

ECONOMICS

1. Principles of Economics. I, II. 3 hr. Organization and principles of economic activity. Staff

2. Principles of Economics, I. II. 3 hr. Econ. 1 and 2 are prerequisite to all upper-division courses. Staff

5. Fundamentals of Economics. I, II. 3 hr. For Engineers only. Staff

111. Money and Banking. I. II. 3 hr. Our system of monetary and banking arrangements, viewed in relation to functioning of the economic system as a whole. Mr. Fishman

115. Labor Problems. I. II. 3 hr. History of modern labor movements; analysis of economic and social problems arising from relations between capital, labor, and the state. Mr. Somers

116. History of Labor in United States. II. 3 hr. PR: Econ. 115 or consent of instructor. Origins and development of labor organizations with particular attention to those in the U. S. Mr. Somers

119. Economics of Consumption. I. 3 hr. Economic and social problems involved in consumer choices. Staff

125. Statistics. I. II. 3 hr. PR: Math. 2, 3, or 8. Methods of collecting, presenting, analyzing, and interpreting business data, with special emphasis on the analysis of frequency distribution, trend fitting, seasonal corrections forecasting, and index numbers. Mr. Hanczaryk

126. Problems in Statistics. II. 3 hr. PR: Econ. 125. The analysis of progressive changes in seasonal patterns; index numbers; simple, multiple, and partial correlation; graphic multiple correlation sampling theory; statistical research. Mr. Hanczaryk

209. Problems in Economics. I, II. 1-3 hr. Staff

210. Comparative Economic Systems. II. 3 hr. Structure and processes of existing economic systems throughout world including review of basic principles of free interprise, socialistic, communistic, and fascistic societies. Comprehensive analysis based on current and recent experiments in these economies. Staff

217. Trade Unionism. I. 3 hr. PR: Econ. 115. An analysis of the structure, government, attitudes, and policies of organized labor; the economic and political implications of union policy. Mr. Somers

218. Collective Bargaining and Labor Relations. II. 3 hr. PR: Econ. 115 or consent of instructor. Theory and practice of collective bargaining; causes of industrial peace and conflict; government regulation of labor relations. Mr. Somers

221. Economic Theory. I, II. 3 hr. Training and experience in use of analytical methods and techniques needed in dealing with fundamental economic problems. Staff

222. History of Economic Thought. I. 3 hr. PR: Econ. 221. Economic ideas in perspective of historic development. Mr. Thompson

225. Transportation. I. 3 hr. Development of an inland transportation system and relations and policies of transport agencies. Mr. Campbell

230. Public Utilities. II. 3 hr. Development of regulation; economics of valuation and rate making. Mr. Campbell

235. Business Cycles. I. II. 3 hr. PR: Econ. 125, or consent of instructor. Industrial fluctuations; causes and possible remedies. Mr. Fishman

241. Public Finance. II. 3 hr. Fiscal organization and administration of modern governments; public expenditures; governmental revenues; problems of public debt. Mr. Tower

242. Taxation. II. 3 hr. PR: Econ. 241 or consent of instructor. Comparative study of taxes and tax systems. Particular emphasis upon tax structures of Federal government and State of West Virginia. Mr. Tower

245. Government and Business. II. 3 hr. Government in its role of adviser and umpire; analysis of governmental policies and practices affecting business. Mr. Fishman

250. International Trade. II. 3 hr. PR: Consent of instructor. Development of trade among nations; theories of trade; policies; physical factors; trends; and barriers. Mr. Campbell

FINANCE

111. Business Finance. I. II. 3 hr. PR: Accounting 1 and 2 or consent of instructor. Legal and economic aspects of business formation, operation, and readjustment; social control of business activity. Mr. Tower

115. General Insurance. I. II. 3 hr. Theory of risk and its application to insurance; principles underlying all forms of insurance — life, property, casualty, fire, and surety. Mr. Wright

120. Life Insurance. I. 2 hr. PR: Finance 115. Principles of life-insurance protection; legal regulation of insurance companies. Mr. Wright

150. Investments. II. 3 hr. PR: Finance 111 or consent of instructor. Investment analysis and management for the individual and the firm. Mr. Tower

161. Real Estate. I. 3 hr. Principles and practices of real estate business. Mr. Wright

212. Problems in Business Finance. II. 3 hr. PR: Finance 111. A study of selected problems of business finance developed largely by the case method. Mr. Tower

216. Casualty Insurance. II. 2 hr. PR: Finance 115. Nature of and reasons for existing practices in casualty insurance. Fire, marine, liability, automobile, title, and credit insurance and corporate bonding. Mr. Wright

MARKETING

111. Principles of Marketing. I. II. 3 hr. Principles, policies, and practices followed by producer, wholesaler, and retailer in distribution of commodities to consumer. Mr. Roberts

112. Marketing Management. II. 3 hr. PR: Marketing 111. Case studies of marketing activities in distribution of agricultural and manufactured commodities. Mr. Roberts

115. Principles of Retailing. I, II. 3 hr. PR: Marketing 111 and 112. Retail organization, administration, planning, buying, expense analysis, and promotional activities. Mr. Graham

120. Principles of Advertising. I, II. 3 hr. PR: Marketing 111 and 112. Introduction to principles and practices of advertising, including preparation of complete advertising campaign. Mr. Roberts

210. Industrial Purchasing. I. 3 hr. PR: For seniors and graduate students. A survey of corporate procurement problems facing modern purchasing executives. Mr. Roberts

215. Marketing Research. I, II. 2 hr. PR: For seniors and graduate students in Marketing, and consent of instructor. The utilization of present-day marketing research techniques in the solution of practical marketing problems, with particular reference to West Virginia. Mr. Roberts

MANAGEMENT

111. Industrial Management. I. 3 hr. The assignment of managerial personnel to the specialized activities, location and lay-out of manufacturing plants, standardization and simplification of equipment and processes, procurement issue and storage of material, production cost and labor efficiency, planning and scheduling of operations. Mr. Isaack

112. Production Management. II. 3 hr. PR: Management 111. Staff functions of production control and organization of the production control division. Mr. Isaack

210. Problems of Small Business. II. 2 hr. PR: For seniors and graduate majors in Business Administration. Analysis of specific problems facing small businesses in our present-day American economy; specialized management course for students who wish to prepare as proprietors of a small business. Staff

213. Problems in Business Administration. I, II. 1-3 hr. Staff

216. Personnel Management. II. 3 hr. PR: Econ. 115. Principles and practice in the direction, coordination, and remuneration of manpower Mr. Isaack

225. Business Policy. II. 3 hr. PR: Senior standing and consent of instructor. Integrated study of policies, organization, facilities, and control techniques of business enterprises. Mr. Coleman

BUSINESS LAW

111. Business Law. I, II. 3 hr. Introduction to the study of the legal system, courts and procedures; fundamentals of contracts and insurance. Mr. Farmer

112. Business Law. I, II. 3 hr. Fundamentals of the law of real and personal property; sales of personal property; liens and security transactions; negotiable instruments. Mr. Farmer

SECRETARIAL STUDIES

51. Business Communications. II. 3 hr. PR: 8 hr. English composition and ability to type. Vocabulary and technique of business writing as applied to various forms of research and reporting. Miss Coutts

61. Typewriting. I. 2 hr. For secretarial majors or consent of instructor. Instruction in formation of accurate typing habits.* Miss Coutts

62. Typewriting. I, II. 2 hr. PR: Secretarial Studies 61 or equivalent. For secretarial majors or consent of instructor.* Miss Coutts

125. Shorthand. I. 4 hr. Gregg shorthand for beginners* Miss Coutts

126. Shorthand. II. 4 hr. PR: Secretarial Studies 125, or equivalent. Intensive review of fundamental principles of Gregg shorthand; development of accurate writing and ability to transcribe business and manuscript materials.* Miss Coutts

131. Secretarial Training and Office Practice. I, 3 hr. PR: Ability to type. Analysis of common working problems of a secretary. Special emphasis on sources

*Credit will be allowed for Secretarial Studies majors in the College of Commerce and for students in the College of Education with Commerce teaching fields, only.

of information, procedures in filing, handling mail, planning itineraries, preparing material for publication, preparing minutes of meetings, and preparing statistical material* Miss Coutts

132. Transcription. II. 2 hr. PR: Consent of instructor. For advanced students of typewriting and shorthand.* Miss Coutts

GRADUATE COURSES

310. Contemporary Economic Theory. II. 3 hr. PR: Econ. 221. Recent developments in economic theory such as those relating to imperfect competition, monetary problems, and collectivist economy. Staff

315. Bibliography and Research. I. 2 hr. Sources of information; research procedures; analysis and interpretation of data; preparation of manuscripts. Mr. Coleman

319. Seminar in Economics. I, II. 2 hr. per semester. Staff

325. Seminar in Business Administration. I, II. 2 hr. per semester. Staff

331. Thesis in Business Administration. I, II. 2 or 3 hr. per semester. Staff

341. Thesis in Economics. I, II. 2 or 3 hr. per semester. Staff

The College of Education

GENERAL INFORMATION

THE COLLEGE OF EDUCATION

In 1901 a Department of Education was established in the College of Arts and Sciences of West Virginia University. Subsequently, departments of education grew up in the College of Engineering and the School of Music. In 1927 the College of Education was established by the Board of Governors of the University to unify professional training for school service.

Through its undergraduate courses, its seminar, its laboratory schools, and its encouragement and direction of education investigation and research, the College of Education aims to contribute to educational efficiency of West Virginia by inculcating a liberal and more scientific conception of the functions of public schools of the state and by providing the professional training of secondary-school teachers, principals, and supervisors, elementary-school principals and supervisors, school administrators, college teachers, educational counselors, and educational research specialists.

The College of Education comprises the College with its resident courses of instruction and its facilities for research; University High School, located in Deahl Hall, with its opportunities for observation, student teaching, direct supervision, and experimentation; and Laboratory Elementary School with its opportunities for graduate study of the progress of pupils.

ADMISSION REQUIREMENTS

Methods of Entrance

Candidates for admission to the University may be admitted either by examination or on the basis of official transcripts of record. Transcripts of college or university record must be sent by the registrar of the other institution directly to the Registrar of the University immediately after the student has completed his work in that institution. Transcripts must be received by the Registrar at least three weeks prior to the semester or term in which the applicant is interested. The transcripts received in support of applications for admission become the property of the University and are permanently filed in the office of the Registrar.

The requirements for admission to the College of Education are (a) graduation from a first-class high school with University entrance requirements satisfied and (b) 58 semester hours of approved college work with an average of at least two grade points per credit hour on all work presented. Students in other colleges or universities who contemplate transferring to the College of Education should so order their courses of study as to meet junior standing and should be fulfilling the curricular requirements for the certification of teachers as stated in the College of Education *Announcements*.

Adviser

When the student enters the College of Education he is assigned an adviser from the College. The student will plan his program of work—required courses, electives, examinations, conference courses, etc.—in consultation with his adviser.

Credit for Correspondence Work

Credit up to a maximum of 30 semester hours for work completed by correspondence will be accepted by the University when such work is given by accredited colleges or universities who accept this work for credit toward their own

degrees and whose residence work is accepted by West Virginia University. In compliance with an order of the State Board of Education, however, credits obtained in correspondence courses will not be considered in certifying students for teachers' certificates.

Maximum Work

Students may not, without special permission, register in the College of Education for more than 18 hours during any semester, 35 hours during any academic year, and 6 hours during any summer term. Any student who desires to do irregular work, or to carry more than the prescribed maximum of hours, must obtain written permission from the Scholarship Committee of the College. This permit is not valid until it has been filed with the Registrar.

REQUIREMENTS FOR DEGREES

To be eligible for recommendation for the degree in Education (B.S. in Ed. and B.S. in El. Ed.) a candidate must:

1. Comply with the general regulations as announced in preceding pages and in the General Information section (Part I) of the University *Catalog*, concerning entrance, advanced standing, classification, examination, marks, grade points, etc.
2. Satisfy the General Requirements for certification.
3. Complete the required hours of approved courses in Education listed.
4. Select and pursue two teaching fields for high-school teaching or the prescribed curriculum for elementary teaching.
5. Adhere to the patterns prescribed in completing the teaching fields.
6. Present 128 hours of approved college credit, with a general average of "C" as described under General Requirements for Certification. (Only credit earned in West Virginia University and at Potomac State School will be used in computing grade points for graduation.) The candidate must have been enrolled in the College of Education for at least his last 26 hours.
7. Be at least 18 years of age, of good moral character, interested in educational work, and mentally, physically, and otherwise qualified to perform the duties of a teacher.

Fulfillment of the requirements from the College of Education qualifies a candidate to apply for recommendation for a West Virginia first-class teaching certificate.

TEACHER CERTIFICATION REGULATIONS

For the University's standards for selecting, guiding, training, and recommending its candidates for secondary-school teaching certificates, renewals, and reinstatements, including general requirements, required and elective Education courses, and requirements in the various junior and senior high-school teaching fields, see the bulletin *Requirements Applicable to Degrees and Certificates*. All courses selected by the candidate are to be approved by the adviser so as to fulfill the above requirements.

SPECIAL REQUIREMENTS FOR MASTER'S DEGREES

Curriculum: At least 10 of the required 30-36 hours of approved graduate work shall be in Education; and the combined undergraduate and graduate curriculum shall contain a minimum of 30 semester hours of Education.

OPTIONAL ROUTES TOWARD A MASTER'S DEGREE IN EDUCATION

A. Thirty semester hours, including six semester hours of research (Education 362. Thesis) and the remaining hours in approved course work. Examin-

ation (oral, written, or both, at the discretion of the individual members of the committee) by the candidate's advisory committee.

B. Thirty semester hours, including three semester hours on a problem (Ed. 360, Problem) satisfactory to the adviser only, and 27 semester hours of approved course work. Examination (oral, written, or both, at the discretion of the individual members of the committee) by the advisory committee.

C. Thirty-six semester hours, including a minimum of 10 semester hours of approved course work outside the field of Education. Examination (oral, written, or both, at discretion of the individual members of the committee) by a committee of at least three.

Graduate Advisers

Each Education student enrolled in the Graduate School will be directed by the appropriate one of the following advisers:

Professor Allen: Industrial Arts and Vocational Education
Professor Baldwin: Superintendents; general school administration
Professors C. W. Hill and Butler: Vocational Agricultural Education
Professor Hudelson: Graduate specials, secondary principals
Professors Noer and Brown: Home Economics Education
Professors Cook, Fulton, and Schultz: Classroom teachers in all secondary-school teaching fields
Professor Stemple: Secondary-school teachers, specials
Professors Wheat, Feaster, and Fish: Elementary-school teachers and principals
Professor Jarecke: Counselors and classroom teachers
Professor Scott: General and special supervisors

GRADUATE PROFESSIONAL CURRICULA

Requirements for admission to graduate work in Education leading to Master's Degree:

1. General requirements for admission to the Graduate School.
2. First-class teaching certificate or at least 17 hours of undergraduate credit in Education. To receive a graduate degree in Education the candidate also must meet requirements for a first-class teaching certificate.

CURRICULUM FOR SUPERINTENDENTS

Degree: Master of Arts

Required courses ..... 24 Hr.

Ed. 203. Organization and Administration of Adult Education, OR Ed. 357, Organization and Administration of Vocational Education 2
Ed. 231. Philosophy of Education, OR Ed. 233, Educational Sociology .. 3
Ed. 316. Psychology of Elementary-school Subjects 2
Ed. 326. Practice in the Supervision of Elementary-school Instruction .. 2
Ed. 335. The Elementary-school Curriculum, OR Ed. 336. The Secondary-school Curriculum 2
Ed. 339. Public-school Organization and Administration 2
Ed. 340. Public-school Finance 2
Ed. 341. School Buildings and Equipment, OR Ed. 343 School Surveys, OR Ed. 344, Staff Personnel Administration 2
Ed. 346. Principles of Supervision 2
Ed. 353. The Secondary-school Principal 2
Ed. 356. The Elementary-school Principal 2
Ed. 372. Statistical Methods in Education 2

Education Electives ..... 3-6 Hr.

Ed. 360 or 362. Problem or Thesis 3
Other electives (to be chosen with adviser's approval) at least 10 hours in academic fields (Op. C) .....0-10 Hr.

TOTAL FOR MASTER'S DEGREE .....30-36 Hr.

NOTE: For those who already hold a Master's Degree and who wish to qualify for the University's recommendation for a Superintendent's Certificate, the following courses (described above) will satisfy:

Required courses ..... 16 Hr.
General Administration: Ed. 339; 340; 203 or 357; 341 or 343 or 344 ..4-8 Hr.
Elementary-school Administration: Ed. 326, 335*, 356 .....4 Hr.
Secondary-school Administration: Ed. 327, 336*, 346, 353 .....4 Hr.

Other requirements for the Superintendent's Certificate are 5 years' experience in the public schools of West Virginia, 3 of which shall have been as principal of either high school or elementary school or as superintendent or assistant superintendent in county and/or district in West Virginia; and a health certificate.

Since most of the courses listed above have prerequisites, the consent of the instructor must be obtained before enrollment.

*Ed. 335 or 336 (not both) can be accepted.

CURRICULUM FOR HIGH-SCHOOL PRINCIPALS[10]

Degree: Master of Arts

I. *Required courses* (in approximate order listed) ..... 14 Hr.
Ed. 339. Public-school Organization and Administration 2
Ed. 346. Principles of Supervision 2
Ed. 372. Statistical Methods in Education 2
Ed. 336. The Secondary-school Curriculum 2
Ed. 284. Pupil-personnel Administration 2
OR 373. Basic Course in Principles and Practices of Guidance ..3
Ed. 353. The Secondary-school Principal 2
Ed. 327. Practice Supervision of Secondary-school Instruction 2-3

II. *Cognates* .....6-8 Hr.
Ed. 259. Special Problems in Music Education 2
Ed. 284. Pupil-personnel Administration 2
OR 373. Basic Course in Principles and Practices of Guidance ..3
Ed. 322. Organizing Programs of Audio-Visual Instruction 2
Ed. 357. Organization of Programs in Vocational Education 2
Ed. 360. Problem in Education OR 362. Thesis in Education 3
Phys. Ed. 378. Problems in Physical Education, Health, and Recreation ..2
Social Work 220. The Field of Social Work OR 251. Services to Individuals OR 260. Problems of Child Welfare OR 285. Development of Social Services 3

III. *Academic* .....10-14 Hr.
Academic courses in two or more recognized secondary-school teaching fields. These courses are to be chosen with the adviser's approval and are to be of a nature which will better qualify the principal to supervise the classroom instruction of the kinds of courses offered in modern secondary schools.

[10]Completion of this curriculum also fulfills the scholastic requirements for certification in West Virginia as a high school principal. Other requirements for the high school principal's certificate are (1) graduation from a standard college or university and qualifications for a first-class high school teaching certificate; (2) three years of secondary-school teaching experience; and (3) a health certificate. Since most of the courses in this curriculum have prerequisites, the consent of the instructor must be obtained before enrollment.

IV. *Free Electives* ..... 0-6 Hr.

TOTAL FOR MASTER'S DEGREE 30-36 Hr.

NOTE: Those already holding a Master's Degree, who desire to qualify for a West Virginia high school principal's certificate, will be required after 1951 to have the fourteen hours listed in Section I and six hours from Section II to be recommended for a certificate.

CURRICULUM FOR ELEMENTARY-SCHOOL PRINCIPALS

Degree: Master of Arts[11]

Required courses ..... 14 Hr.

I. Elementary-school Administration
- Ed. 339. Public-school Organization and Administration 2
- Ed. 356. The Elementary-school Principal 2

II. Elementary-school Supervision
- Ed. 326. Practice in the Supervision of Elementary-school Instruction ... 2
- Ed. 346. Principles of Supervision 2

III. Other Phases of Elementary Education — three additional courses elected from the following:
- Ed. 304. Remedial Techniques in Elementary-school Subjects 2
- Ed. 305. County Educational Clinic 2
- Ed. 306. Supervision of Geography 2
- Ed. 307. Supervision of Health and Safety Programs in Elementary Schools 2
- Ed. 308. Psychology of Arithmetic 2
- Ed. 309. Psychology of Reading 2
- Ed. 316. Psychology of Elementary-school Subjects 2
- Ed. 335. The Elementary-school Curriculum 2

IV. Op. A: Thesis, 6 hr.; Electives, 10 hr. ..... 16 Hr.
or
Op. B: Problem, 3 hr.; Electives, 13 hr. ..... 16 Hr.
or
Op. C: Academic, 10 hr.; Electives, 12 hr. ..... 22 Hr.

TOTAL FOR MASTER'S DEGREE ..... 30-36 Hr.

NOTE: An elective may be Educational or academic and must have adviser's approval.

CURRICULUM FOR SECONDARY-SCHOOL CLASSROOM TEACHERS

Degree: Master of Arts

Required graduate courses in Education ..... 10-20 Hr.

Suggested courses
- Ed. 203. Adult Education 2
- Ed. 212. High-school Tests and Measures 3
- Ed. 221. Audio-visual Resources for Instruction 2
- Ed. 222. Current Practices in Secondary Education 2
- Ed. 231. Philosophy of Education 3
- Ed. 233. Educational Sociology 3
- Ed. 251. Production of Audio-visual Resources 2

[11]Completion of this curriculum also fulfills the Education requirements for the elementary-school principal's certificate. Other requirements are (1) possession of a first-class elementary collegiate certificate; (2) three years of elementary-school teaching experience; and (3) a health certificate.

Ed. 258. Education for Special Groups 2
Ed. 259. Special Problems in Music Education 2
Ed. 281. History of Elementary and Secondary Education in the United States 3
Ed. 282. Development of Modern Education 2
Ed. 284. Pupil-personnel Administration 2
Ed. 285. The Junior High School 2
Ed. 291. Exploratory Reading 2
Ed. 322. Organizing Programs of Audio-visual Instruction 2
Ed. 336. The Secondary-school Curriculum 2
Ed. 346. Principles of Supervision 2
Ed. 367. Teaching the Social Studies in Elementary and Secondary Schools 2
Ed. 372. Statistical Methods in Education 2
Ed. 373. Basic Course in the Principles and Practices of Guidance 3
Ed. 390. Advanced Courses for Teachers of English 2
Ed. 392. Materials for General Reading 2
Ed. 360. A Problem in Education OR Thesis 3

Required graduate courses in a recognized teaching field ..... 10-20 Hr.
Required graduate courses in tributary or supplemental fields ..... 0-10 Hr.

TOTAL FOR MASTER'S DEGREE ..... 30-36 Hr.

All courses are to be selected by the candidate subject to the approval of his adviser so as to fulfill the above requirements.

NOTE: This curriculum does not qualify for a certificate.

CURRICULUM FOR ELEMENTARY-SCHOOL CLASSROOM TEACHERS

Degree: Master of Arts

Required courses ..... 12 Hr.

I. Psychology of Elementary-school Subjects (4 Hr.)—two courses elected from:
Ed. 308. Psychology of Arithmetic 2
Ed. 309. Psychology of Reading 2
Ed. 316. Psychology of Elementary-school Subjects 2

II. Other Phases of Elementary Education (8 Hr.)—four or more additional courses elected from:
Ed. 304. Remedial Techniques in Elementary-school Subjects 2
Ed. 305. County Educational Clinic 2
Ed. 306. Supervision of Geography 2
Ed. 307. Supervision of Health and Safety Programs in Elementary Schools 2
Ed. 308. Psychology of Arithmetic 2
Ed. 309. Psychology of Reading 2
Ed. 316. Psychology of Elementary-school Subjects 2
Ed. 335. The Elementary-school Curriculum 2
Ed. 335. The Elementary-school Curriculum 2
or
Op. B: Problem, 3 hr.; Electives, 15 hr. ..... 18 Hr.
or
Op. C: Academic, 10 hr.; Electives, 14 hr. ..... 24 Hr.

TOTAL FOR MASTER'S DEGREE ..... 30-36 Hr.

NOTE: An elective may be Education or academic, and must have adviser's approval.

NOTE: This curriculum does not qualify for a certificate.

CURRICULUM FOR HOME-ECONOMICS EDUCATION

Degree: Master of Science

Required graduate courses in Education ..... 10-20 Hr.
Required graduate courses in Home Economics ..... 10-20 Hr.
Required graduate courses in tributary fields ..... 0-10 Hr.

TOTAL FOR MASTER'S DEGREE ..... 30-36 Hr.

CURRICULUM FOR COUNSELORS[12]

Degree: Master of Arts

Required courses ..... 16 Hr.
Ed. 373.* Basic Course in Principles and Practices of Guidance 3
Ed. 374.* Counseling Techniques 2
Ed. 375.* Individual Inventory Techniques 2
Ed. 376.* Occupational Information Techniques 2
Ed. 377.* Special Counseling Problems 3
Ed. 378.* Advanced Studies of Human Adjustment OR Ed. 212. High-School Tests and Measures 2
Ed. 379.* Organization and Administration of Guidance Services 2

Approved electives ..... 9-14 Hr.
Psychology — 222, 224, 225, 229, 234, 236, 250, 251
Economics — 239, 245
Social Work — 212, 220, 251, 260, 301, 302, 315
Education — 284, 212, 258, 357, 360, 372
Sociology — 210, 211, 233, 244

Free electives ..... 0-6 Hr.

TOTAL FOR MASTER'S DEGREE ..... 30-36 Hr.

CURRICULUM FOR INDUSTRIAL-ARTS TEACHERS AND SUPERVISORS

Degree: Master of Arts

Required from this group ..... 10 Hr.
Ed. 294. Organization of Industrial Arts 2
Ed. 339. Public-school Organization and Administration 2
Ed. 357. Organization of Programs in Vocational Education 2
Ed. 364. Advanced Methods in Teaching Industrial Arts 2
Ed. 373. Basic Course in Principles and Practices of Guidance 3
Ed. 346. Principles of Supervision 2

*Completion of 12 semester hours alone as indicated by starred courses will contribute to endorsement as a teacher-counselor. Other requirements for certification as a teacher-counselor are possession of a first-class certificate, and 2 years' teaching experience at the level at which guidance is to be done.

If a Master's Degree has been earned in some other field, certification as a counselor may be procured by having 25 semester hours' credit, 15 in the required list and 10 from the electives.

[12]Completion of this curriculum also fulfills the scholastic requirements in West Virginia for a Counselor's Certificate. Other requirements are (1) a first-class teaching certificate at the level at which the guidance is to be done; (2) 2 years of successful teaching experience at the level at which the guidance is to be done; and (3) cumulative wage-earning experience to a total of no less than 1,400 clock hours of regular paid employment, as certified by the employer or employers, in agriculture, commerce and industry, or 16 weeks in a co-operative work-experience counselor-training program.

Electives from this group ..... 10 Hr.

Rec. 204. Recreation Hobbies 3
Ed. 203. Adult Education 2
Ed. 221. Audio-visual Resources for Instruction 2
Ed. 222. Current Practices in Secondary Schools 2
Ed. 258. Education of Special Groups 2
Ed. 284. Pupil-personnel Problems 2
Ed. 251. Production of Audio-visual Resources 2
Ed. 322. Organizing Programs of Audio-visual Education 2
Ed. 326. Practice in Supervision of Elementary-school Instruction 2
Ed. 327. Demonstration and Practice in Supervision of Secondary-school Instruction 2-3
Ed. 336. The Secondary-school Curriculum 2
Ed. 341. School Buildings and Equipment 2
Ed. 360. Problem in Education 3
Ed. 395-8. Practicum 3

Practical or Skilled ..... 10 Hr.

Ag. E. 259. Functional Requirements of Farm Buildings 3
Ag. E. 270. Electricity in Agriculture 3
Ag. Mech. 252. Advanced Farm Mechanics 2
Ag. Mech. 253. Advanced Farm Machinery 3
Ch. E. 260. Ceramics 3-6
E. M. 351. Coal Mining 3
Ed. 204. Advanced Woodworking 3
Ed. 205. Advanced Crafts Work 3
Ed. 206. Industrial Experience 2-6
Ed. 207. Maintenance of Equipment in Industrial Arts 2
Ed. 320, 321. Special Topics in Industrial Arts 4-6

Free electives ..... 0-6 Hr.

TOTAL FOR MASTER'S DEGREE ..... 30-36 Hr.

CURRICULUM FOR GENERAL SUPERVISORS

Degree: Master of Arts

I. *General Requirements* ..... 9 Hr.
Ed. 347. The Work of the Supervisor 3
Ed. 348. Pupil Development and Educational Growth 3
Ed. 349. Investigations in Supervision 3

II. *Practice or Laboratory Requirements* ..... 8 Hr.
Ed. 380. Practice in Supervision (1st sem. in field) 2
Ed. 381. Practice in Supervision (2nd sem. in field) 2
Ed. 382. Practice in Supervision (3rd sem. in field) 2
Ed. 383. Practice in Supervision (4th sem. in field) 2

III. *Requirements in Problems of Teaching (elect three)* ..... 9 Hr.
Ed. 366. Teaching the Language Arts 3
Ed. 367. Teaching the Social Studies 3
Ed. 368. Teaching Extra-core Subjects 3
Ed. 369. Teaching of Mathematics and Science 3

IV. *Electives (must be outside field of Education)* ..... 10 Hr.

TOTAL ..... 36 Hr.

NOTE: This curriculum can be pursued only after arrangement with Miss Scott.

THE DEGREE OF DOCTOR OF EDUCATION

Admission to the Graduate School and enrollment in graduate courses do not of themselves imply acceptance of the applicant for a Doctor of Education Degree. The sequence of prerequisites to admission, prerequisites to candidacy, and requirements for the degree are as follows:

Prerequisites to Admission

Applicants expressing a desire to pursue a program leading to the Doctor of Education Degree are required to satisfy a College of Education faculty committee on prerequisites in the following ways:

A. Furnish evidence of significant and appropriate teaching experience.

B. Demonstrate the ability to read comprehendingly and to use creditable oral and written English.

C. Demonstrate the ability to use the basic statistical processes.

D. Furnish evidence of wide reading in general and professional fields.

E. Show by means of oral and written tests a preparedness to undertake an organized program of advanced graduate study and research.

F. In addition to the foregoing, the Committee on Prerequisites may require a trial period of resident study.

Doctoral Committee

When an applicant has received the permission of the Graduate School to enter upon an organized program of advanced graduate study and research he will be assigned an adviser by the Dean of the Graduate School. The Dean of the Graduate School and the adviser will jointly select a doctoral committee consisting of not fewer than five members of whom at least one shall be from a field other than Education. The adviser shall serve as chairman of the doctoral committee and this committee shall have charge and direction of the applicant's program. This program, prepared by the adviser and the applicant, must be approved by the doctoral committee and by the Dean of the Graduate School before the applicant is eligible to stand for the qualifying examinations.

Qualifying Examinations

At a time to be determined by the doctoral committee after the applicant has spent at least one semester, or three summer terms of six weeks each, in full-time graduate work in on-campus residence beyond the Master's Degree or its equivalent, he will be admitted to written and oral comprehensive preliminary or qualifying examinations, conducted by the doctoral committee, in the areas of general professional background, specialization, and cognates. The applicant must (a) evidence a grasp of the important phases and problems of the field of study in which he proposes to major and the application of their relation to other fields of human knowledge and accomplishment; (b) demonstrate the ability to employ rationally the appropriate instruments of research; and (c) present a written tentative outline of a proposed research project.

The written qualifying examination precedes the oral that should follow within a reasonable time the successful completion of the written. If the committee is not satisfied with the applicant's showing, it will make specific recommendations for additional work in preparation for a second trial that may be undertaken not earlier than six months nor later than twelve months after the first trial. The outcome of the second attempt will be considered final.

When an applicant has passed the qualifying examinations he will formally be promoted to candidacy for the Doctor of Education Degree. Admission to candidacy must precede the final examination by at least one academic year in time and 12 semester hours in credit. A maximum of 30 semester hours of graduate work pursued in fulfillment of the requirements for the Master's Degree, if of suitable character and quality, may be credited toward the doctorate.

Requirements for Completion

Curriculum. The degree of Doctor of Education is not achieved by the mere accumulation of course credits nor the completion of a definite residence requirement. The exact amount and nature of course work to be undertaken by a candidate will be determined in the light of his previous preparation and the demands of his chosen field of application. The aggregate of courses of graduate study shall, however, be not fewer than 70 semester hours, exclusive of the dissertation. Not more than 12 of the 70 hours may be earned in extension and/or practicum or field work. The program of course work shall include a minimum of 42 semester hours in Education, at least 30 of which shall be on the "300" level, and a minimum of 24 semester hours in cognate courses, of which at least 12 shall be on the "300" level. These courses shall be so ordered and distributed as to promote broad and systematic knowledge and the ability to prosecute independent research.

Candidates having an earlier graduate degree or its equivalent from West Virginia University will be required to complete a prescribed minimum of resident graduate work in one or more other institutions.

Residence. In general, requirements for the Doctor of Education Degree contemplate three years of full-time graduate work beyond the Bachelor's Degree, including a minimum of two semesters in residence in full-time graduate study in West Virginia University beyond the Master's Degree or its equivalent.

Special Requirements. Competence in the advanced techniques of statistical research; evidence of a functioning command of appropriate methods of educational investigation; and mastery of the rules of manuscript preparation.

Dissertation. The candidate must submit a dissertation pursued under the direction of his doctoral committee on a problem in the field of his major interest. The dissertation must show familiarity with previous knowledge of the general problem; embody a clear definition of the particular problem pursued; employ valid methods of attack; demonstrate the ability to create and evaluate new knowledge; present and interpret unequivocally the results of the candidate's individual investigation; and disclose his ability to apply his contribution to the solution of educational problems.

Final Examination. If the candidate's dissertation is approved and he has fulfilled all other requirements, he will be admitted to final oral examination before his doctoral committee. At the option of his committee a written examination also may be required. The final examination or examinations shall be concerned with the dissertation, its contribution to knowledge, and the candidate's grasp of his field of specialization and its relation to other fields. No candidate may proceed to his final examination until he has fulfilled residence requirements for the degree and until he has completed at least 12 semester hours of graduate study subsequent to his admission to candidacy.

Time Limitation. Requirements for the Doctor of Education Degree must be completed within seven years of admission to candidacy.

NOTE: It is the responsibility of all applicants for admission to the Graduate School and all candidates for graduate degrees to conform to the General Regulations as published in the latest Announcements of the Graduate School.

COURSES OF INSTRUCTION

Only courses in Education numbered below 100 are open to sophomores, none to freshmen. The following courses are required of teachers for recommendation for a first class high school certificate: Educ. 55, 56, 114, 120, 124 and enough additional hours chosen from the following approved electives to meet the minimum requirement of 20 hours in Education: Ed. 101, 136, 150-170 and 224 in a second teaching field, 197, 203, 212, 221, 222, 231, 233, 258, 259, 262 or 266, 276 or 277, 281, 282, 284, 285, 291, 294.

Undergraduate Division

55, (105). Educational Psychology—Human Growth and Development. I, II. 3 hr. Special emphasis is placed upon developing competencies on the part of prospective teachers in understanding and applying principles involved in the growth and development of children and youth. Open to sophomores or above. Miss Fulton

56, (106). Educational Psychology—The School Program and Pupil Development. I, II. 3 hr. PR: Ed. 55. Continuation of Ed. 55 with special attention to the nature of the school program as it affects the growth and development of pupils. Staff

101. Introduction to Vocational Teaching. II. 2 hr. A survey of the field of vocational education with particular emphasis on orientation as the foundation for occupational preparation. Mr. Allen

102. Hand Woodworking. I. 3 hr. Basic for prospective industrial-arts teachers. Use of most hand tools found in school shops, development of school-shop projects, and basic finishing information. Staff

103. Machine Woodworking. II. 3 hr. PR: Ed. 102. Use of common pieces of power woodworking equipment and safety factors involved in their use in school shops. Staff

104. Basic Handwork with Bench Tools for Metal. 3 hr. PR for all advanced work in metal craft. Staff

107. General Shop Practice. 2 hr. Diversified experience with tools of all crafts contributing to the completion of shop projects in industrial arts. Staff

109. Secondary Education. I, II. 3 hr. Introduction to secondary-school teachers' problems of organization and administration not including instructional matters. Mr. Schultz or Mr. Williams

114. Educational Psychology—Adolescent Adjustment. I, II. 3 hr. PR: Ed. 55, 56. Types of learning activities featured in the program of the secondary school and the forms of personal and social adjustment effected, with special consideration given to methods and techniques applicable to the evaluation of pupil progress. Staff

115. Student Teaching in Elementary-school Music. I, II. 2 hr. Observation and practice of teaching music to pupils in grades one to six in the University Laboratory Elementary School. Open to seniors who have completed 27 hours in Music and 7 semester hours in Education with 2 grade points average in each and a general grade-point average of "C." Opportunity for observation and practice is limited to one class period (one hour) each day each semester for 4 students. Attendance is required on alternate days, when instruction in Music is given, in each of the two classrooms of the Laboratory Elementary School. Miss Wasmuth, Mr. Brown

120. Principles of Teaching in Secondary Schools. I, II. 2 hr. Open only to those who qualify for the student teaching block. Mr. Cook

124. Student Teaching. I, II. 4 hr. PR: Ed. 55, 56, and one elective in Education. This course is open only to seniors and graduate students regularly enrolled in the University meeting the following requirements:

1. Completion of approximately 75 per cent of the hours required in each of two teaching fields and completion of Ed. 55, 56, and one elective course in Education, with a minimum general grade-point average of "C" and a minimum average of "C" in each teaching field and in Education.

2. An applicant for student teaching must submit positive evidence that he

(or she) meets the requirements of physical conditions and emotional stability necessary for the performance of the duties of a teacher in the public schools. Such evidence must come from the University Health Center on a blank provided by the College of Education.

3. This course must be taken simultaneously with Ed. 120 and the appropriate course of Ed. 150-170 unless exceptions have previously been made with Mr. Cook. A period of 3 hours daily must be reserved for this and simultaneous courses for purposes of observation, for subsequent discussion, for individual students, and for subsequent planning.

4. All students must reserve Monday, 7 to 9 P.M., biweekly, for teachers' meetings.

5. Because two-thirds of the program of the University High School is in the forenoon, two-thirds of the applicants must schedule this course in the morning, reserving three hours daily without interruption.

6. Admission is by application made early in the preceding semester to Prof. Kermit A. Cook, who alone will give permission to enroll when requirements are met.

7. The adviser is responsible for furnishing a check of the student's record to determine eligibility.

Mr. Cook, Mr. Schultz, Mr. Miller, Mr. Butler, or Mr. Hill, and U.H.S. Staff

130. Materials and Methods in Elementary-school Music. I, II. 1 hr. (To be carried simultaneously with Education 115). Miss Wasmuth, Mr. Brown

136. High-school Program of Studies. I, II. 3 hr. Principles governing the selecting of subjects and subject matter for secondary schools with special emphasis on possibilities within given subjects. Mr. Hudelson

141. Psychology and Management of the Elementary School. 3 hr. PR: Ed. 55, 56, and enrollment in College of Education—undergraduate program in elementary education. Types of learning activities of the elementary school, forms of personal and social adjustment effected, evaluation of progress of pupils, with special attention to the organization of the daily program of the school and the management of classroom activities.
Mr. Wheat, Mr. Feaster, and Mr. Fish

142. Materials and Methods in the Basic Arts. 4 hr. PR: Ed. 55, 56, and enrollment in the College of Education—undergraduate program in elementary education. The methods and materials of learning and instruction in reading, writing, language, music, art, arithmetic. Mr. Wheat, Mr. Feaster, and Mr. Fish

143. Materials and Methods in the Content Subjects. 5 hr. PR: Ed. 55, 56, and enrollment in College of Education—undergraduate program in elementary education. The methods and materials of learning and instruction in history, geography, citizenship, science, health, and safety.
Mr. Wheat, Mr. Feaster, and Mr. Fish

144. Directed Teaching in Elementary School. 5 hr. PR: Ed. 141 and 142 or 143; open to students in the program of elementary education with senior standing who have gained a minimum grade average of "C" (1) in non-Education courses, and (2) in Education courses. To remain in the course, students must maintain the minimum grade average of "C." They will arrange in advance with their adviser a schedule which permits a half day each day of uninterrupted work in this course, and which does not exceed a maximum of 16 semester hours in total. Mr. Wheat, Mr. Feaster, and Mr. Fish

150-170. Materials and Methods of High-school Teaching. I, II. 2 hr. Special methods in the various secondary-school teaching fields. For West Virginia certification these courses are an integral part of Ed. 124. May also be chosen as a two-hour elective by students who are registered for student teaching in other fields.

The various sections of this course, with their instructors, follow:

150. Biology. I, II. 2 hr. Staff

151. Science. I, II. 2 hr. Staff

152. Physical Education. I, II. 2 hr. Mr. Eicher, Mr. Fizer, and Mrs. Hayhurst

155. Library Science. I, II. 2 hr. Miss Robinson

160. Agriculture. I, II. 3 hr. Mr. Bible, Mr. Hill, and Mr. Butler

161. English. I, II. 2 hr. Miss Brochick, Mr. Full, Miss Smrek, and Miss Woofter

163. Home Economics. I, II. 2 hr. Mrs. Roberts

164. Industrial Arts. I, II. 2 hr. Mr. Brennan

165. Mathematics. I, II. 2 hr. Miss Wilt, Mrs. Dorsey

166. Physical Science. I, II. 2 hr. Mr. Federer

167. Social Science. I, II. 2 hr. Mrs. Semon

168. Art. I, II. 2 hr. Mrs. Roller

169. Music. I, II. 2 hr. Mr. Thomas and Miss Wasmuth

170. Commerce. I, II. 2 hr. Miss Watson

179. Safety Education—Safe Driving. S. 1 hr. Open to selected high-school teachers. Mr. Eicher

180. Safety Education—Safe Driving. S. 1 hr. Open to selected high-school teachers. Continuation of Ed. 179. Mr. Eicher

197. Survey of Vocational Education. I. 2 hr. The relationship to each other and to the public-school program of vocational agricultural, vocational home economics, trade and industrial education, commercial education, distributive education, rehabilitation, and re-education. Mr. Allen

*203. Organization and Administration of Adult Education. II. 2 hr. Mr. Allen

204. Advanced Woodworking, Construction, and Finishing. 3 hr. PR: Elementary woodworking. Selection of advanced projects, analyzing construction planning and finishing, application of machine tools. Staff

205. Advanced Craft Work. 2-9 hr. PR: Ed. 103, 104, or equivalent. Planning and completing projects in art metal, leather, plastics, upholstery, textiles, etc., as used in special courses in Industrial Arts. Not more than 6 hours in any one term or semester. Staff

206. Industrial Experience. 2-6 hr. Open only to students qualifying to teach industrial arts or become counselors. Evaluation of educative outcome of personal employment in industry as determined by duration, experience records, study on job, and final examination. Counts as extension credit. Staff

207. Maintenance of Equipment in Industrial Arts Shops. 2 hr. PR: Consent of instructor. Staff

212. High-school Tests and Measures. I, II. 3 hr. Uses and techniques of educational measurement in secondary-school teaching. Miss Fulton and Mr. Hudelson

*To receive graduate credit for any courses numbered 200-299, the student must have had at least 14 hours in undergraduate Education.

221. Audio-visual Resources for Instruction. I, II. 2 hr. Uses of sensory techniques in teaching. Restricted to seniors and graduates.
Mr. Allen and Mr. Williams

222. Current Practices in Secondary Education. I, II. 2 hr. Mr. Schultz

224. Advanced Student Teaching. I, II. 2 hr. PR: Education 124 or its equivalent and permission of the Director of Student Teaching. If in the same teaching field as Education 124, must involve types of experiences not generally available in beginning student teaching.
Mr. Cook, Mr. Schultz, Mr. Miller, and U.H.S. Staff

231. Philosophy of Education. I. 3 hr. PR: Five hours of Education courses and senior standing. Evaluation of educational theories and practices in terms of the several judgments of ultimate worth set up by man in his endeavor to understand life's real meaning. Mr. Baldwin

233. Educational Sociology. II. 3 hr. PR: Five hours of Education courses and senior standing. Impacts of institutions of society upon school, and school's counter-impacts upon social institutions and agencies.
Mr. Baldwin or Mr. Williams

251. Production of Audio-Visual Resources. 2 hr. PR: Ed. 221. Practical participation in planning and producing audio-visual media for use in teaching, for supporting the school's public-relations program, and in educational research.
Mr. Allen or Mr. Williams

258. Education for Special Groups. 2 hr. A study of the techniques and organization of instruction of adults and teen-age youth not in attendance at ordinary day-school classes. Part-time, evening, and dull season classes are among the educational projects considered. Mr. Allen

259. Special Problems in Music Education. 2 hr. PR or parallel: Ed. 124 in Music or consent of instructor. Study and analysis of various types of music positions; school-community music program, public performance, contests, festivals; music in school assembly, listening, creative activities. Mr. Brown

262. Vocational Home Economics in Secondary Schools. I, II. 3 hr. PR or parallel: Ed. 120, 124, and 163; home economics, 25 hours. Primarily for seniors and teachers of home economics. Miss Noer

266. Adult Education in Homemaking. I, II. 2 hr. Current trends and present activities in the field of adult education. Organization of adult classes, development of unit outlines; consideration of teaching methods; illustrative material and bibliography for use in adult classes. Staff

270. Special Problems and Workshops. I, II. 1-4 hr. PR: 14 hr. Ed. To take care of credits for special workshops and classes held occasionally on problems of Education dealing with measurement, guidance, administration, methods, supervision, and the like. Staff

276. Methods in Special Vo-Ag Projects. II. 2 hr. PR: Ed. 55 and 56. Participation in conducting young and adult-farmer classes and school canning plants; organization, course of study, methods of teaching, and supervision.
Mr. Hill or Mr. Butler

277. Organizing and Directing Supervised Practice Programs in Vocational Agriculture. II. 2 hr. Planning programs of supervised practice, supervising, and evaluating such programs for all-day, part-time, and evening-school students.
Mr. Hill or Mr. Butler

278. Planning the Programs and Organizing the Courses for Departments of Vocational Agriculture. I. 2 hr. Involves gathering data and studying the farming problems; for all-day, part-time, and evening-school students.
Mr. Hill or Mr. Butler

281. History of Elementary and Secondary Education in the United States. I, II. 3 hr. Mr. Cook

282. Development of Modern Education. I. 2 hr. Comparative study of schools in the leading nations of Europe since 1800. Mr. Schultz

284. Pupil-personnel Administration. I. 2 hr. PR: Ed. 55 and 56. Pupil accounting, guidance, extra-curricular activities, and control. Open only to seniors and graduates. Mr. Schultz

285. The Junior High School. II. 2 hr. PR: Ed. 55 or 56 and consent of instructor. Open only to seniors and graduates. Mr. Hudelson

291. Exploratory Reading. I, II. 2 hr. PR: Consent of instructor. For those who feel need for wider acquaintance with books. Mr. Schultz

294. Organization of Industrial Arts. I. 2 hr. PR: Consent of instructor. An advanced course. Preparation of comprehensive programs of industrial arts at all scholastic levels. Mr. Allen

Graduate Division

304. Remedial Techniques in Elementary-school Subjects. 2 hr. PR: 10 semester hours undergraduate credit in elementary education or consent of instructor. Methods and materials useful in aiding retarded and failing pupils. Staff

305. County Educational Clinic. 2 hr. PR: 6 graduate hours of elementary education or consent of instructor. Procedures of providing and managing clinical services needed in larger school areas. Staff

306. Supervision of Geography. 2 hr. PR: 10 hours undergraduate credit in elementary education or consent of instructor. Methods of directing teachers in organizing content of geography for pupils. Staff

307. Supervision of Health and Safety Programs in Elementary Schools. 2 hr. PR: 10 hours of undergraduate credit in elementary education. Management of health and safety provisions needed by population of a school and development of program of health instruction. Staff

308. The Psychology of Arithmetic. 2 hr. PR: 10 hours of undergraduate credit in elementary education or consent of instructor. Processes of number thinking and sequential steps of their development among pupils. Mr. Wheat

309. The Psychology of Reading. 2 hr. PR: 10 hours of undergraduate credit in elementary education or consent of instructor. Progress through grades in art of reading: direction of attention required at different stages. Mr. Feaster

316. Psychology of Elementary-school Subjects. 2 hr. PR: 10 hours of undergraduate credit in elementary education or consent of instructor. Distinguishing features of various subjects, types of learning activity they require, and sequences characteristic of each. Mr. Wheat

320, 321. Special Topics in Industrial Arts. 2-3 hr. each. PR: Consent of instructor. For graduate students in industrial arts. Special projects of improvement in phases needing special attention. Staff

322. Organizing Programs of Audio-visual Instruction. 2 hr. PR: Ed. 221. An advanced course dealing with problems of planning extensive programs of using movie, talkie, radio, slides, charts, exhibits, etc., for instructional purposes. Mr. Allen and Mr. Williams

326. Practice in Supervision of Elementary-school Instruction. 2 hr. PR: 6 graduate hours of elementary education or consent of instructor. Observing and practicing major activities of supervisor in work with pupils and teachers. To be taken late in student's candidacy. Mr. Wheat

327. Demonstration and Practice in the Supervision of Secondary-school Instruction. II. 2-3 hr. PR: Consent of instructor. Opportunity to observe approved processes in classroom supervision and to practice, under guidance, art of improving classroom instruction. To be taken late in student's candidacy. Mr. Cook and Mr. Schultz

335. The Elementary-school Curriculum. 2 hr. PR: 10 hours of undergraduate credit in elementary education or consent of instructor. Organization of content and materials of instruction of subjects through the grades. Mr. Feaster

336. The Secondary-school Curriculum. I. 2 hr. PR: High-school teaching experience or consent of instructor. Principles of and practice in curriculum construction for modern high schools. Mr. Schultz

339. Public-school Organization and Administration. I. 2 hr. PR: 20 hours of Education and consent of instructor. An orientation course for present and prospective school administrators, with emphasis upon the problems which grow out of the county unit. Required as a basic course of all who specialize in educational administration. Mr. Baldwin

340. Public-school Finance. II. 2 hr. PR or Conc.: Ed. 339 and consent of instructor. Sources of school support; taxation; efficient management of school money; locally by improved budgetary practices; in state by more adequate apportionment plans. To be taken late in student's candidacy. Mr. Baldwin

341. School Buildings and Equipment. I. 2 hr. PR or Conc.: Ed. 339 and consent of instructor. Philosophy, planning, and management of school plant as appropriate physical environment—the home of pupils for effective learning. Mr. Baldwin

343. School Surveys. 2 hr. PR or parallel: Ed. 339 and consent of instructor. Development of the educational survey as an instrument for improving educational procedures. Mr. Baldwin

344. Staff-personnel Administration. II. 2 hr. PR or parallel: Ed. 339 and consent of instructor. Selection, induction, direction, evaluation, improvement, and promotion of members of the supervisory, instructional, research, clerical, and maintenance staffs. Mr. Baldwin

346. Principles of Supervision. II. 2 hr. Basic; general principles of elementary-school, junior high-school, and senior high-school supervision. Mr. Cook, Miss Scott, and others

347. The Work of the Supervisor. S. 3 hr. PR: Three years teaching experience and consent of instructor. A study of general principles of supervision, grades 1-12, and of educational leadership. This course may be substituted for Ed. 346 in all other courses. Miss Scott and others

348. Pupil Development and Educational Growth. S. 3 hr. PR: 5 hours in educational psychology or equivalent. An advanced study of the part of the school in pupils' growth and development. Miss Scott and others

349. Investigation in Supervision. S. 3 hr. PR: One year's experience in supervisory work. A critical evaluation of literature in the area of supervision. Miss Scott and others

350. Science of Teaching. II. 2 hr. PR: Consent. Mr. Hudelson

353. The Secondary-school Principal. II. 2 hr. PR: Ed. 339, high-school teaching experience, or consent of instructor. Open only to graduate students in Education late in their candidacy. Practicum in secondary-school administration. Mr. Hudelson

356. The Elementary-school Principal. 2 hr. PR: 6 graduate hours of elementary education or consent of instructor. Work of principal in management and supervision of school. To be taken late in candidacy. Mr. Wheat

357. Organization and Administration of Vocational Education. 2 hr. PR: Ed. 339. Specific consideration of the development of practical training in agriculture, home economics, industry, and commerce with particular reference to their place in the public school system. Mr. Allen

360. Problem in Education. I, II. 3 hr. One of the alternative requirements for the Master's Degree in Education. (See Thesis or Option). Staff

362. Thesis in Education. I, II. 1-6, maximum, total 6 hr. One of the alternative requirements for the Master's Degree in Education. (See Thesis or Option). Staff

364. Advanced Methods in Teaching Industrial Arts. 2 hr. PR: Ed. 294. Current developments and research in field. Staff

366. Teaching the Language Arts. S. 3 hr. PR: Consent of instructor. Methods in development of language arts of reading, writing, spelling through grades one to twelve. Staff

367. Teaching the Social Studies in Elementary and Secondary Schools. I. S. 3 hr. PR: Consent of instructor. Methods in teaching and course development of social studies through all school grades. Mr. Cook

368. The Teaching of Extra-core Subjects. S. 3 hr. PR: Consent of instructor. A consideration of problems arising in grades 1 to 12 in teaching art, music, physical education, and club activities. Staff

369. The Teaching of Mathematics and Science. S. 3 hr. PR: Consent of instructor. A consideration of ways in which teachers may be helped in teaching methods of exact thinking, grades one to twelve. Staff

372. Statistical Methods in Education. I. 2 hr. PR: 20 hours of Education. Mr. Hudelson

373. Basic Course in Principles and Practices of Guidance. 3 hr. An overview of a total guidance program. Mr. Allen or Mr. Jarecke

374. Counseling Techniques. 2 hr. PR: Ed. 373, 375, 376. Study of and practice in techniques of counseling. Mr. Jarecke

375. Individual Inventory Techniques. 2 hr. PR: Ed. 373. Comprehensive study of all objective measures used in schools; techniques of administration, interpretation and recording results. Miss Fulton or Mr. Jarecke

376. Occupational Information Techniques. 2 hr. PR: Ed. 373. Methods of gathering and disseminating occupational and educational information. Mr. Jarecke

377. Special Counseling Problems. 3 hr. PR: Ed. 373, 374, 375, 376. Work with actual problem cases according to clinical procedures. Cases to be pursued to satisfactory conclusion. Mr. Jarecke

378. Advanced Studies of Human Adjustment. 2 hr. PR: Ed. 373, 374, 375, 376. Analytical consideration of identification, causes and development of psychological maladjustments, further study of developments in counseling and background in advance studies in guidance. Mr. Allen or Mr. Jarecke

379. Organization and Administration of Guidance Services. 2 hr. PR: Ed. 373, 374, 375, 376. Operative framework of guidance programs in terms of personnel, functions, relationships, physical facilities, institutional integration, finance, standards, laws, and regulations. Mr. Allen or Mr. Jarecke

380, 381, 382, 383. Practice in Supervision. I, II. Credit 2 hr. each. PR: Assignment to actual full-time work in supervision in a school system, previous certification, and consent of instructor. Each course a continuation of preceding. To complete the entire 8 hours not less than two full years of field experience under control of Director of Supervisor Training will be accepted.
Miss Scott and others

390. Advanced Course for the Teaching of English. 2 hr. PR: Consent of instructor. Mr. Hudelson

392. Materials for General Reading. II. 2 hr. PR: Ed. 291. Study of materials for secondary schools and for adult classes. Staff

395, 396, 397, 398. Practicum. Special individual and group projects. I, II, S. 1-4 hr. per semester or term—aggregating not over 12 hr. PR: 8 graduate hours in Education. Enrollment with permission of adviser and instructors in consultation. To provide appropriate credits for special workshops, prolonged systematic conferences on problems and projects in Education. Credits in these projects cannot be substituted for required courses and must be done in residence.

Agricultural Education. Mr. Butler and Mr. Hill
Audio-visual Education. Mr. Allen and Mr. Williams
Educational Measurement and Evaluation. Mr. Hudelson, Mr. Jarecke, and Miss Fulton
Educational Psychology. Miss Fulton, Mr. Jarecke, and Mr. Wheat
Educational Sociology. Mr. Baldwin and Mr. Cook
Elementary Education. Mr. Feaster, Mr. Fish, and Mr. Wheat
Guidance. Mr. Allen, Miss Fulton, and Mr. Jarecke
Home Economics Education. Miss Brown and Miss Noer
Human Growth and Development. Miss Fulton and Mr. Jarecke
Industrial Arts Education. Mr. Allen and Mr. Brennan
Music Education. Mr. Brown
Philosophy of Education. Mr. Baldwin and Mr. Hudelson
School Administration. Mr. Baldwin
Secondary Education. Mr. Cook, Mr. Hudelson, Mr. Schultz, and Mr. Stemple
Special and Adult Education. Mr. Allen and Mr. Williams
Supervision. Mr. Cook, Miss Scott, and Mr. Schultz
Teaching of English. Mr. Hudelson
Teaching of Mathematics. Mr. Feaster, Mr. Fish, and Mr. Wheat
Teaching of Science. Mr. Allen
Teaching of Social Sciences. Mr. Cook
Vocational Education. Mr. Allen, Miss Brown, Mr. Hill, Miss Noer, and Mr. Butler
Rural Education. Mr. Allen and Mr. Schultz

399. Techniques of Educational Research. II. 2 hr. PR: Ed. 372 and consent of instructor. Application of research techniques to problems of modern education; analysis and implications of results. Mr. Hudelson

Ed. A, B, C, and D. Conference. No credit. For students in the program of elementary education during their junior and senior years.

The College of Engineering and Mechanic Arts; The School of Mines

GENERAL INFORMATION

THE COLLEGE OF ENGINEERING AND MECHANIC ARTS AND THE SCHOOL OF MINES

For the purpose of administration and instruction, the College of Engineering and Mechanic Arts is organized into the following departments:

Aeronautical Engineering (A. E.)
Agricultural Engineering (Ag. E.)
Chemical Engineering (Ch. E.)
Civil Engineering (C. E.)
Electrical Engineering (E. E.)
Mechanical Engineering (M. E.)
Mechanics (M.)

All the mining and industrial extension work of the University is organized under the School of Mines. For the purpose of administration the school is divided into the following divisions:

Mining and Industrial Extension
Mining Engineering (E. M.)

The Engineering Experiment Station

The chief functions of the Engineering Experiment Station are to encourage and carry on research and investigations that will enhance the industrial and economic welfare of the people of West Virginia; to make original contributions to the fundamental principles and knowledge along scientific and engineering lines; and to stimulate and train graduate students in research activities. The research undertaken by the Station therefore is primarily concerned with investigations in the production, processing, and utilization of the natural resources of West Virginia; investigations that will aid the existing industries of the state and promote the development of new industries; and investigations that will aid in the planning, design, and development of the public works of the state. As a consequence of this program, the subjects receiving particular attention by the staff of the Station are coal, oil, gas, clays, stone, sand, timber, water, steam and electric power, sewerage, sanitation, road building, transportation, aeronautics, and communications.

The Station will assist in compiling surveys and in conducting investigations of the industrial requirements and possibilities of any region or community in the state. It cooperates with the West Virginia Agricultural Experiment Station, State Road Commission, State Geological Survey, State Department of Health, national engineering societies and state or national agencies whose assistance may promote the more effective fulfillment of the Station's functions.

To aid state industrial organizations that lack facilities and personnel to undertake important research investigations which arise in the development of their operations, the Station stands ready, where time and facilities permit, to assist in the prosecution of investigations on their fundamental problems. Such advisory services are free, but any special equipment, materials, or labor that may be needed must be supplied by the organization for which the work is done. Several companies and technological associations have sponsored research fellowships in the Station.

The staff of the Station includes part-time services of several of the teaching members of the faculties of the College of Engineering and of the School of Mines, as well as a few full-time research engineers and chemists and part-time graduate student research assistants.

The results of the studies, surveys, investigations, and researches of the Experiment Station are published in bulletin form. Two series of bulletins are issued; to date there are 24 numbers in the Research Series and 30 in the Technical Series. The Technical Bulletins contain selected papers from the Proceedings of the Annual State Water Purification Conferences, the State Coal Conferences, the Appalachian Gas Measurement Short Courses, and the Industrial Engineering Conferences. A list of publications and copies of the bulletins may be obtained upon application to the Director of the Engineering Experiment Station.

Mining and Industrial Extension

The department of mining and industrial extension in the School of Mines conducts courses of instruction in practical subjects in various sections of the state where groups of individuals wish to study and receive training in subjects pertaining to their everyday work. The department also aims to disseminate useful knowledge which has been amassed by research studies at the University to all classes of citizens in the state, and in this way to bring the University and its opportunities for learning to various groups of students who desire to enroll in its extension department.

The Short Course in Coal Mining and in Coal Preparation

The Short Course in Coal Mining offered by the department of mining and industrial extension gives an opportunity to operators, officials, and employees of mining companies to obtain instruction pertaining to their work. The subjects covered in the short course are: explosives, methods of mining, timbering, mine gases, mine ventilation, hoisting, haulage, mine drainage, safety lamps, mine management, electricity in mines, mine fires and explosions, safety organization and administration, mining arithmetic, and elementary drawing.

Special attention is given to students desirous of preparing themselves for the teaching of mining classes under the Smith-Hughes and George-Dean Acts.

At the close of the short course the West Virginia Department of Mines conducts an examination for mine foremen and fire bosses. Tuition is free.

The Short Course in Coal Preparation is held principally for men who have been associated with the sizing and preparing of coal for market.

The classroom portion of the course covers the purpose of coal preparation, breaking and crushing, screening, cleaning, analysis of float and sink tests and washability curves, dewatering and drying, dedusting and dust collection, recovery of fines, auxiliary equipment, treatment of coal surfaces, loading, cost, power, water and labor, and analysis of flow sheets.

In the laboratory, the equipment includes a sand media cone, Baum jig, calcium chloride washer, heavy media cone washer, concentrating tables, basket jigs, air cleaning table with filter-type dust collectors, magnetic separator, centrifuges, and a complete closed circuit mineral flotation unit. These units are all self-contained pilot units with auxiliary equipment to permit complete test operation.

The fortieth annual session of the Short Course in Coal Mining and the second annual session of the Short Course in Coal Preparation will begin Monday, June 2, and will continue until Saturday, July 12, 1952. For further information, write for the special announcement of the Short Course in Coal Mining and Coal Preparation.

The Short Course in Gas Measurement

The first Appalachian Gas Measurement Short Course was conducted in 1938 by the University in cooperation with the Public Service Commission of West Virginia, the West Virginia Oil and Natural Gas Association, the American Gas Association, and public utilities and industries producing, selling, or consuming natural gas in large quantities in West Virginia and neighboring states. This course provides instruction in the theory and practice of gas measurement and pressure regulation and is designed to be of interest to executives and officials of gas companies as well as to metermen. The course covers a period of three days and is usually held during the last week of August each year.

Vocational Courses Offered in Extension

Courses in foreman training and other special courses for those in industry are offered in centers where there is sufficient interest. The services of the Department are available for any city or town desiring to establish night and part-time schools.

Extension courses in mining are offered under the direction of the University at various mining towns throughout the state. The instruction in these courses is carried on by University extension instructors who visit each center every week. At the present time the work is planned on a four-year basis to cover the following courses: mine gases, safety lamps, ventilation, timbering, explosives, haulage, prevention of mine accidents, mine waste, drainage and pumping, mining methods, foremanship, electricity, mine fires and explosions, and coal geology. In each of these unit courses, particular emphasis is placed on safety features, state mining laws, and application of arithmetic to mining problems.

In addition to the above, special classes are offered in such subjects as effective speaking, group discussion, mine equipment and maintenance, mine surveying, and other selected subjects for which there is local demand.

Extension classes in industrial engineering subjects and process instrumentation are presently being held at several points in the State.

Fire Service Extension School

An annual training school for firemen is conducted each year in cooperation with the State Fire Marshal, and the West Virginia Inspection Bureau. This school is conducted under the supervision of R. E. Hanna, Jr., Instructor in Fire Service Extension Schools. Extension courses in fire-department evolutions, fire protection, and fire prevention are offered under the direction of the University in cooperation with the Vocational Division of the State Department of Education, at various fire departments in West Virginia. The instruction in these courses is carried on by local extension instructors in the various departments. The classes meet once each week for approximately thirty weeks and cover the following subjects: motor equipment, pumps, hose, ropes, ladders, rescue, attack and extinguishment, salvage, ventilation, gases, inspection, overhauling, and minor equipment. Approximately one-fifth of the time is spent on actual fire-department evolutions.

Oil and Gas Extension Classes

Extension classes for employees of the oil and gas industries are offered at various centers throughout the state by the Mining and Industrial Extension Department of the School of Mines. The classes are organized in September of each year and meet once each week for a period of approximately eight months. The instruction is divided into five years' work as follows: First Year — mathematics, physics, and applied mechanics; Second Year — fluid mechanics, oil and gas transmission, and gas measurement; Third Year — meter testing, pressure regulation and compression; Fourth Year — principles of combustion and gas storage; Fifth Year — geology and production practices.

Industrial Engineering Conference

The Industrial Engineering Conference, sponsored by the College of Engineering and the Industrial Extension Department, School of Mines, is being held annually on the campus of West Virginia University. The conference is designed to promote the dissemination of information on industrial engineering principles and techniques, looking toward increase of efficiency and reduction of costs in industrial processes. Men, who are specialists in their respective fields in industrial engineering, present papers and lead discussions in problems relating to their field. These conferences are held under the supervision of R. E. Shafer and R. E. Hanna.

Buildings and Equipment

Chemical engineering and mining engineering are housed in the Mineral Industries Building. Agricultural engineering is in the Forestry Building. Aeronautical, civil,

electrical, and mechanical engineering are housed in Mechanical Hall. This building also contains the machine and welding shops, the steam-power laboratories and boiler room, the internal combustion engine laboratory, the materials testing laboratory, the electrical engineering laboratory, the hydraulic laboratory, the sanitary laboratory, and most of the general drafting rooms. Mechanical Hall also houses the offices and laboratories of the Materials Engineer of the State Road Commission.

In 1943-44 a modern brick and steel hangar, 80 by 120 feet, and a connecting building containing class room, office, shop, boiler room and pilot room were constructed on University property adjacent to the Morgantown Municipal Airport.

The University has two Cessna Model 140A airplanes and three Piper PA-11 airplanes which are used for flight training by University students. On the west side of the hangar is a concrete apron, 100 by 100 feet, which is connected to the Municipal Airport by a concrete taxi strip.

A Cessna four place Model 170A airplane is used by the Aeronautical Engineering Department for a course in Flight Testing and by the Civil Engineering Department for a course in Aerial Mapping.

The Cessna airplanes are equipped with instruments for full panel and partial panel instrument flight instruction. A Link Instrument Trainer is used in conjunction with these airplanes to supplement the instrument instruction. The airplanes are equipped with two-way radio equipment, both low and high frequency. In addition, one of the airplanes has a complete Omni-directional Range installation.

In 1950 the Aerodynamics Laboratory Building was constructed. This structure houses a modern low-turbulence wind tunnel used for instruction and research. The tunnel, a single return type, has a test section area of 10 square feet. The wind tunnel has a flexible 125 h.p. power system that makes possible a range of airspeeds from zero to 200 miles per hour. The tunnel is adaptable for tests on model aircraft, full scale components, and tests of a thermodynamic nature.

The Aerodynamics Laboratory Building has a 40 by 30 foot room on the west side with a 38-foot opening. The opening is connected to the hangar apron by a taxi strip. This room is used as a airplane shop and for testing purposes.

In the drawing rooms of Mechanical Hall are collections of models of structures, mechanisms, charts, state and government maps, surveys, photographs, engineering specifications, drawings, tracings, and blue prints. In connection with the drawing rooms there are blue printing and photographic rooms equipped with electric apparatus, photostat, and photographic outfits.

The *shops* consist of a gas- and electric-welding shop and machine shop. Each workshop is equipped with suitable benches, measuring instruments, tools, shop appliances, and machines, such as are ordinarily installed in the larger engineering colleges and commercial shops.

A variety of semi-automatic and automatic machines provides unusual opportunity for the student of modern production methods.

The *power-plant equipment* consists of different types of steam and gas engines, direct-connected or belted to electric generators; a 100-kw. Westinghouse condensing steam turbine direct-connected to a direct-current generator; a 125-h.p. Skinner Universal unaflow steam engine direct-connected to a 240-volt three-phase alternator; a 50-h.p. motor-generator set; a Babcock and Wilcox intregal furnace boiler, capacity 7,000 lbs. of steam per hour fired with natural gas under conditions fully automatic modulating control. The boiler is equipped with an automatic boiler feed water regulator, flue gas temperature indicator, and Bailey steam flow meter. An independently gas-fired superheater equipped with temperature controller; pumps, condensers, air compressors, steam traps, and other auxiliary apparatus provides the means of furnishing any desired kind of power.

The *mechanical and steam laboratories* contain small steam and gas engines, two-stage air compressor, one water-cooled and one air-cooled, both equipped with electrical and mechanical controls, motor-driven fans, electric dynamometers, water brakes, Prony brakes, condensers, vacuum pumps, condensate pumps, steam calorimeters, CO_2 analyzer, steam and gas-engine indicators, revolution counters, planimeters, anemometers, pressure gauges, thermometers, Venturi meters, orifices, Pitot tubes, and

nozzles for measuring the flow of air and steam, etc. These are supplemented by the power plant equipment previously described, which affords facilities for steam- and gas-engine trials and boiler tests with larger units, and also provides facilities for various lines of experimental investigation.

The *internal-combustion laboratory* contains a single-cylinder engine, a two-cylinder two-stroke cycle engine, a four-cylinder engine, a four-cylinder opposed-piston type engine, a six-cylinder and an eight-cylinder automotive gasoline engine, a large two-cylinder gas engine, a Diesel tractor engine with electric dynamometer, a two-cylinder Diesel engine, water brakes, Prony brakes, generators, indicators, tachometers, planimeters, and other apparatus necessary for conducting performance tests on these engines.

The Ordnance Department, U. S. Army, has selected the University for the establishment of a sub-gage laboratory. This laboratory is housed in a specially constructed air-conditioned room. It is equipped with the most modern types of high-precision gages and measuring instruments such as contour projectors, comparators, Pratt & Whitney measuring machine, Sheffield multi-check, precision gage blocks, sine bars, sine blocks, surface plates, toolmaker's microscope, electro-limit gages, equipment for light-wave measurement, micrometers, height gages, etc.

The *electrical laboratory* has motor-generator sets which supply controlled direct-current or alternating-current power to meet the special requirements of the laboratory. These motor-generator sets supplement the power available from the Monongahela Power Company and the generators in the mechanical engineering laboratory.

In addition to standard types of direct and alternating-current motors and generators, the electrical laboratory has special types of machines, such as a Fynn-Weichsel motor, a rotary converter, alternators ranging from 25 to 800 cycles, a G.E. amplidyne demonstration set for use in servomechanism, an electronic direct-reading frequency meter with a range from 1 to 50,000 cycles per second, a high-frequency demonstration oscillator rated at 1,000 watts, an electronic Mot-O-Trol, etc. There are also standard types of motor generators, rectifiers, storage batteries, reactances, capacitors, auto transformers, constant current transformers, and experimental apparatus for demonstrating many of the principles of electricity and magnetism. The equipment of the laboratory includes, besides the standard laboratory measuring instruments, tachometers, slipmeters, stroboscopes, frequency meters, illuminometers, oscillographs, rotating standards, a Fahy permeameter, a Silsbee current transformer testing set, laboratory precision standards, and a potentiometer for the calibration of direct and alternating-current instruments.

In the communications and electronics laboratory there are various electronic devices such as cathode ray oscilloscopes, vacuum-tube voltmeters, audio and radio frequency bridges, oscillators, signal generators, square-wave generators, amplifiers, photoelectric relays, an ignitron and a metal tank rectifier, wave analyzer; also electronic testing devices such as tube-testers, multi-testers, an electronic switch, a chanalyst, and a dyamic demonstrator. An amateur radio station licensed as W8SPY is maintained normally by staff members for demonstrating the principles of radio communication.

For use in ultra-high frequencies and associated work there are micro-wave generators, electric-wave guides, a wave standard, a Mega-Match, parabolic and other electric-wave reflectors, and micro-wave demonstration devices.

Telephone equipment consisting of standard parts, relays, etc. is supplemented with parts and assemblies for demonstrating essential features of various types of manual and dial telephone exchanges. An artificial telephone line is available for studies of phenomena associated with electric wave propagation and electric filters.

The *Materials Testing Laboratory* is equipped with devices for testing cement, iron, steel, brick, stone, and other engineering materials. The principal machines are an Olsen testing machine of 400,000-pound capacity which can accommodate tension and compression specimens up to 6 feet, and beams up to 16 feet in length; two hydraulic Baldwin-Southwark universal testing machines of the latest type, one of 200,000-pound capacity, the other of 60,000-pound capacity with autographic recording attachment; a 10,000-pound Olsen transverse testing; machine; a 10,000-

inch-pound Riehle torsion machine with autographic recorder; and Brinell, Rockwell, Shore and Vickers hardness testers. Morehouse proving rings for calibration of testing machine are a part of the equipment of this laboratory. Photo-elastic and Stresscoat equipment has been provided for stress-analysis, and complete electrical-resistance strain-gage apparatus is available both for class demonstration and for research purposes.

The *hydraulic laboratory* pipe system is so connected that water may be used either from the city pressure lines or from either of two centrifugal pumps—one 350 g.p.m. and the other 600 g.p.m.—which take suction from three 4,000-gal. calibrated storage pits. Water is furnished to a weir tank where weirs of rectangular, triangular, or other shape may be tested; two orifice tanks where circular or square orifices and short tubes are tested under low heads; a 12-inch impulse wheel equipped with a glass paneled case and Prony brake for measuring the power developed; a glass-enclosed 4-inch reaction turbine with runners of the Francis and propeller type which discharge through a glass draft tube, the power being used to drive a calibrated electric generator; a glass paneled flume so arranged that the slope may be readily varied; a Eureka water meter; a Venturi meter; and two pipe lines designed for the study of pipe friction and the loss of head due to bends. Small rates of flow are measured by weighing the discharge on platform scales of 1,000-lb. capacity, while larger rates are weighed on a 10,000-lb. Fairbanks scale. The laboratory is fully equipped with gauges, manometers, and pitometers.

Through the courtesy of The Morgantown Water Commission a 12-inch pipe line is available for pitometer work. A stream-flow measurement station is maintained on the Monongahela River where a Stevens automatic stage recorder is installed and where a Price current meter is used to measure the river discharge. Rainfall records are obtained from a Ferguson recording rain gage.

The *sanitary engineering laboratory* is well equipped for student work in water purification and sewage disposal. Hydrogen-ion concentrations may be measured by a Beckman pH meter or by permanent color standards. Other colorimetric work is done with an electro-photometer. Turbidity may be measured by a U.S.G.S. rod, or by Jackson, Hellige or Baylis turbidimeters. In addition, there is the usual supply of glassware, balances, chemicals, steam baths, burners, and muffle furnaces for mineral analyses; microscopes, special filters, and micrometers for algae studies; and pressure and dry-heat sterilizers, incubators, and special media for bacterial tests.

A number of transits, levels, plane tables, and other surveying instruments are used by students in working out field-surveying problems. Aerial photographs of neighboring territory are available to be used in photogrammetric mapping. Topography is obtained from these photographs by use of the Fairchild stero comparagraph. Diapositive aerial photographs are used with a multiplex projector to demonstrate another method of producing topographic details. Aerial mapping cameras are available for mapping that is done in cooperation with the Aeronautical Engineering Department. The usual supply of steel tapes, level rods, range poles, plumb bobs, etc., are available and are used by all engineering students.

Through cooperation with the Testing Division of the State Road Commission, students are given experience with the actual work of testing all kinds of highway materials including tar, asphalt, paint, steel, oil, cement, sand, gravel, stone, concrete, drainage pipe, and soils. Equipment available includes constant temperature baths, viscosimeters, specific-gravity balances, drying ovens, furnaces, a three-compartment DeVal abrasion machine, a Los Angeles abrasion machine, diamond core drill, ball mill, briquette machine, Dory hardness machine, Page impact tester, small rock crusher, motor-driven vibrating screens for both coarse and fine aggregates, standard moulds for cement and concrete specimens, concrete mixer, brick rattler, Kriege and Hubbard-Field stability testers, a 30°-below-zero refrigerator for freezing-thawing tests, an "electric eye" turbidimeter for cement testing, and equipment for consolidation, shear, stability, and permeability tests on soils.

The laboratories for *chemical engineering unit operations* and *unit processes* are well equipped for small-scale production of industrial chemicals and for conducting experimental work for the collection of performance and design data. Among the

types of equipment in these laboratores are a Lummus 16-plate column still; a Badger copper fractionating unit fitted with an 8-inch, 15 plate bubble-cap column and all accessories including a 20-thermocouple temperature-measuring system; a Great Western pot still also fitted to operate as a steam still; Stokes double-effect evaporator with vacuum pump; 10-gallon Dopp vacuum pan; Devine crystallizer for both atmospheric and vacuum operation; Sperry filter press, open-delivery washing type, with montejus and pumps; Shriver stainless-steel portable self-contained filter unit, closed-delivery washing type; Oliver continuous rotary filter; American rotary disc filter; Kelly pressure filter; several crock filters; International centrifuge; Tolhurst center-slung variable speed centrifuge; Sharples supercentrifuge; Proctor and Schwartz cabinet dryer with automatic-temperature and humidity controls; Devine vacuum-chamber dryer; Buflovak double-drum dryer for atmospheric or vacuum operation; large Freas precision drying oven; single-tube experimental heat exchanger with automatic multipoint temperature recorder; Ross Multitube, two-pass heat exchanger; "Karbate" absorption tower, nitrator, sulphonator, fusion pot, autoclave, and Z-blade mixer with stainless-steel bowl.

In connection with this equipment there is provided a completely equipped modern chemical laboratory furnished with specialized instruments and apparatus such as nitrometers, centrifugals, constant-temperature baths, refractometers, melting and boiling-point apparatus, turbidimeters, and colorimeters, together with apparatus for complete analytical, testing and control work.

The *ceramics laboratories are* well equipped for instruction and research. They contain a muffle pottery kiln; Kutz clay-testing kiln; two fusion-point furnaces; frit and glass-melting furnace; general heating furnace and decorating kiln. All the kilns and furnaces are gas-fired and except for the pottery and decorating kiln, have individual motor-driven blowers. There are also available a number of small and medium-sized electric furnaces and a Hoskins heavy-duty large size furnace. The grinding equipment includes a jaw crusher; crushing rolls; sample grinder; hammer mill; wet pan; 18-inch by 25-inch ball mill; gang of six ball mills of three sizes and two gallon-size individual ball mills. A Federal unit for dust classification and a Tyler Ro-Tap sieve shaker are also part of the equipment. For plastic clay work there is provided a Patterson clay washing outfit, slip pump, filter press, and a vacuum pugmill, laboratory size; volumeters; jigger; and pottery wheels for individual use. Other equipment includes a spray booth; raw-materials bins; Fisher and Polaroid strain finders for glass. The laboratories are equipped for practically all routine tests and analyses.

The *metallurgy laboratory* is well equipped for experimental work along the lines of heat treating, and photomicrographic examination of metals and alloys. Heat treating equipment includes a Tocca electronic high frequency induction heater, and several electric muffle furnaces with thermocouples and pyrometers. Metallographic equipment includes: a metallurgical specimen cut-off machine, a belt surfacer, specimen mounting presses, polishing tables each having three independently motor-driven polishing discs, seven metallurgical microscopes, two with camera attachments, a B & L metalloscope, a B & L research metalloscope complete with accessories, two darkrooms equipped with apparatus for developing, printing, enlarging, and color photography. Other equipment includes: two Westinghouse metallurgical X-ray units, a Reihle universal testing machine, and Rockwell hardness testers.

The *electrochemical industries laboratory* contains a 1.2 kw. motor generator set for electroplating; tanks for electrolytic cleaning, rinsing, and plating; Reliance variable-speed polishing lathe; Ajax-Northrup high-frequency furnace; Lectromelt 37.5 kva. electric arc furnace; Vorce chlorine-caustic cell, Fisher titrimeter; hypochlorite cell, iodoform cell, clay dewatering cell; Fisher electro-analyser; Beckman pH meter with accessories; a number of rheostats, ammeters, voltmeters and potentiometers.

The *laboratory for water examination* and investigations of liquid industrial wastes contains all the necessary apparatus, instruments, and chemical reagents for any required qualitative tests or quantitative determinations on boiler and industrial waters and trade wastes. For special tests and procedures there are available: an autoclave, dry-sterilizing oven, ammonia in water stills, Nessler tubes, biological and

polarizing microscopes, counting cells, settling cones, incubators, Kober colorimeter, sets of color standards for complete range of hydrogen ion measurements, Jackson turbidimeter, U.S.G.S. color discs and tubes, and a Parr photoelectric turbidimeter for sulfate determinations.

The *fuels and oil-testing laboratories* are supplied with a U. S. Steel Corporation type furnace and absorption chain for determining the by-product coking values of coals; a multiple-unit electric furnace and absorption chain for ultimate analysis of coal; Saybolt four-tube viscosimeter, special flasks and centrifuge tubes for determination of water and sediment in oils; flash and fire-point testers, sulfur-in-oil outfit; Kjeldahl-nitrogen digestion and distillation equipment. Assemblies for analysis ot fuel and stack gases include Bureau of Standards precision, Orsat technical, Fisher precision, Hempel burettes and pipettes, referee total sulfur, and Tutwiler H_2S burette, Reed vapor-pressure bomb for gasoline, Parr total-carbon apparatus, and Lovibond and A.P.A. colorimeters.

The services available in the Chemical Engineering Department laboratories are: 110-volt and 220-volt a.c., 2-volt to 150-volt d.c., superheated and saturated steam, compressed air, vacuum, gas, and hot and cold water.

Other facilities available in this department are: (1) a large well-equipped drawing and design room with extensive collection of catalogues and texts on plant equipment and structures; (2) a locker room with individual student lockers, industrial washers, and showers; (3) a cold room with automatic-temperature control; (4) a well-equipped shop operated by a skilled mechanician; (5) a large stockroom for chemicals, apparatus, and instruments, and having an adjacent special chamber for acid storage; and (6) separate research laboratories.

The latest trade literature, catalogues, and reports of commercial developments in engineering are kept in classified files for students' reference. The University library has a thoroughly classified and indexed collection of the standard and latest books in engineering and the allied sciences, complete bound sets of the transactions of several scientific and engineering societies and current issues and bound volumes of the principal scientific technical periodicals.

The extensive technical library donated by Mrs. Mary Dille Emory as a nucleus for a memorial to her husband, Prof. Frederick Lincoln Emory, deceased, is also available for use.

School of Mines Laboratories

The mining laboratories in the Mineral Industries Building are designed to supplement the technical instruction related to the various phases of mining engineering and to correlate basic theory and principles with their application in industrial practice.

The *mining laboratory* includes various types of electrical control systems as commonly used with modern mining equipment, especially arranged to permit analysis of the electrical circuits and operating principles. Specimens of typical equipment for drilling, cutting, and blasting are included, together with key assembly parts of such units. There also are devices for demonstrating and determining the explosibility of suspended dusts, dust analysis equipment, apparatus for determining dust counts, and models showing methods of working anthracite, bituminous coal, and mineral deposits.

The *mine ventilation laboratory* is equipped with centrifugal and multistage axial flow fans, together with the necessary facilities for demonstrating the principles of fluid flow as related to mine ventilation and determination of the performance characteristics of the fans used. A gas testing room is provided for practice and demonstration with flame safety lamps and other gas detection devices. The laboratory is provided with apparatus and facilities for air analysis; and the William Clifford and James T. Beard collection of safety lamps is of particular academic interest as related to the history and development of mine lighting.

The *fuels laboratory* is especially equipped for the analysis and study of fuels, with particular emphasis on coal and coke. The equipment includes analytical

balances, calorimeters, drying and roasting ovens, fusion furnaces, and special equipment necessary for the proximate analysis of coal and the determination of coking and ash fusion characteristics.

The *coal preparation laboratory* is outstanding in its facilities for coal testing and in the variety of coal cleaning and preparation equipment provided. The testing equipment includes facilities for screen analysis, float and sink separation, and the various units required to reduce and prepare samples for laboratory analysis. Cleaning equipment includes a sand media cone, a three-cell Baum-type jig, a calcium chloride washer, a heavy media cone washer, concentrating tables, basket jigs, an air cleaning table with filter-type dust collectors, a magnetic separator, centrifuges, and a complete closed circuit mineral flotation unit. The cleaning units listed are all self-contained pilot units with auxiliary equipment to permit complete test operation and are in addition to a wide range of individual devices for demonstration and instructional purposes.

The *oil and gas laboratory* contains a full range of equipment necessary for determination of the chemical and physical properties of oil and gases as related to their use, transmission, and production. Apparatus and facilities are provided for core analysis to determine saturations, porosity, permeability, and grain structure of producing sands, together with diamond core drills and saws for the preparation of samples for such tests. Also included are various specimens of drilling and other production equipment for instruction and demonstration. The gas measurement section includes bell-types, critical flow, and low pressure flow provers for testing meters of various types. Also provided is a wide range of domestic, orifice, and large-capacity displacement meters with the necessary meter runs for their operation.

Special equipment for instruction in geophysics is provided, and the school maintains an earth-movement recording seismograph station, operated in accordance with standards approved by the U. S. Coast and Geodetic Survey, for recording earthquakes and the movement of severe storm zones.

U. S. Bureau of Mines Station

The United States Bureau of Mines maintains on the campus, laboratory and pilot-plant facilities for research and development work on the production of synthesis gas from coal, which is part of the Bureau's over-all program for synthetic liquid fuel development.

Under the terms of a cooperative agreement between the University and the Bureau, students are employed by the Bureau on a part-time basis.

A limited number of graduate students may be appointed as Bureau of Mines Fellows to work on research problems of interest to the Bureau. With the approval of the students' theses advisory committees, the problems may also be accepted as research for theses requirements. The students so selected have an opportunity to work under the joint supervision of government experts and University staff members.

In the selection of part-time student workers, preference is given to those in the upper third of their class.

The Bureau staff also conducts a graduate seminar in coal research. In this seminar, research problems and methods are discussed, with special reference to applications to the Bureau's current problem.

Facilities for Inspection Trips

The University is located in a region which affords the student unusual opportunities for practical observation and education in engineering. Morgantown is the center of an extensive coal region in which are large workings of the Pittsburgh, Sewickley, and upper Freeport seams, while nearby are the Fairmont and Connellsville fields. West Virginia's gas and oil district approaches within four miles of the city. The region abounds with rich deposits of glass sand, limestone, clay, shales, and valuable building stone.

Within the city limits and in nearby towns are numerous factories and plants, including large steam and hydraulic central stations for the production of electric power, cement plants, extensive glass factories manufacturing glass of every description, an anhydrous ammonia plant, brick plants, by-products coking plants, brass plant, brass and iron foundries, large oil- and gas-pumping stations, glass sand and limestone-crushing plants, etc.

Pittsburgh, the center of the world's greatest iron and steel industries, is only seventy-four miles from the University. The Wheeling area, with its large steel and ceramic industries and its large modern central stations, is approximately the same distance. The rapidly expanding Ohio River Valley industrial area in the vicinity of Parkersburg and the concentration of plants in the Kanawha Valley affords an excellent opportunity to visit large modern chemical plants.

Organized inspection trips under faculty supervision are taken each year. Credit for one inspection trip is required for graduation.

Professional Societies

ENGINEERING SOCIETY

The Engineering Society is conducted by the students of the College of Engineering and School of Mines under the direction of a faculty committee. Students taking any of the four-year curricula leading to the baccalaureate degrees in engineering are required to engage actively in the work of the society during the third and fourth years. The Engineering Society has close connections with the West Virginia Society of Professional Engineers.

NATIONAL SOCIETIES

Student chapters of the following national societies are maintained: Institute of the Aeronautical Sciences, American Society of Agricultural Engineers, American Institute of Chemical Engineers, American Society of Civil Engineers, American Institute of Electrical Engineers, American Institute of Mining and Metallurgical Engineers, American Society of Mechanical Engineers, and Society for Advancement of Management. Meetings of these student branches are held weekly.

The West Virginia Alpha Chapter of Tau Beta Pi was installed at West Virginia University on June 3, 1922. Tau Beta Pi is the honorary engineering fraternity and has chapters in more than eighty-eight of the leading engineering colleges. Membership may be conferred upon candidates for the Degree of Bachelor of Science in Aeronautical, Agricultural, Chemical, Civil, Electrical, Mechanical, and Mining Engineering who have maintained a rank in scholarship in the highest fifth of the class.

The West Virginia Upsilon Chapter of Sigma Gamma Epsilon was installed at West Virginia University on May 27, 1927. Sigma Gamma Epsilon is an honorary mineral industries fraternity with chapters in thirty of the leading universities. Seniors and juniors in mining engineering and majors in metallurgy and ceramics in chemical engineering who have attained high scholarship rank are eligible for membership.

The West Virginia Pi Gamma Chapter of Pi Tau Sigma was installed at West Virginia University on March 31, 1942. This is an honorary mechanical engineering fraternity with chapters in fifty-five universities. Seniors and juniors in mechanical engineering who have attained a high scholastic rank are eligible for membership.

The West Virginia Beta Rho Chapter of Eta Kappa Nu was installed at West Virginia University on May 2, 1947. Eta Kappa Nu, national electrical engineering honorary society, has qualifications for membership which distinctly stimulate and reward high scholarship. The upper one-fourth of the junior class and the upper one-third of the senior class who have high scholastic standings and good character are eligible for membership.

A loan fund is maintained by the local chapter for students enrolled in the College of Engineering.

The West Virginia Chapter of Chi Epsilon was installed at West Virginia University on May 14, 1949. This is an honorary civil engineering fraternity with chapters

in thirty-eight colleges and universities. Seniors and juniors in civil engineering who have attained a high scholastic rank are eligible for membership.

Standing Committees

Engineering Schedules: Professor E. C. Jones.
Engineering Society: Professors Downs, Longhouse, and Simons; Associate Professor Baker; Assistant Professors Dubbe and Ulrich.
Library: Professors Seibert and Speiden and Assistant Professor Peer.
Committee on Scholarship: Professors C. H. Cather, J. B. T. Downs, Associate Professor Fairbanks.

REQUIREMENTS FOR DEGREES

Any student, in order to be eligible to receive a Bachelor's degree in any branch of engineering for which degrees are offered, in addition to satisfying all entrance requirements shall be required to complete satisfactorily 144 semester hours of work as specified in the curriculum of the department leading to the degree for which the student is a candidate, plus the general requirements of physical education and military science required by the University for such a degree.

SUBSTITUTIONS

The following substitutions are regularly allowed in addition to special substitutions listed elsewhere:

Speech 11 for Speech 13.
Chemistry 5, 6, 106, 15 or 115 (2 to 5 hrs.) for Chemistry 10.
Chemistry 115 for Chemistry 15.
Economics 1 and 2 for Economics 30.
C.E. 201 for C.E. 115 Lab.
M.E. 25 for C.E. 110.
M.E. 29 for M.E. 27.
Physics 1, 2, 3, 4, 109, and 110 for Physics 105, 106, 107, and 108.

THESIS

Any candidate for a baccalaureate degree in engineering may with the consent of his major professor prepare a thesis on some subject relating to a special branch of engineering or other department of applied science. It will be presented for approval first to the instructor under whose guidance it has been prepared, then to the head of the department in which the degree is to be conferred. A typewritten copy of the thesis prepared in accordance with official specifications and signed by both the instructor in charge and the head of the department, must be placed in the University library before graduation.

MILITARY AND PHYSICAL EDUCATION

Eight hours of Military and two hours of physical education are required of every male student entering the University and presenting fewer than 58 hours unless previous credit has been allowed. Such student is given a complete medical and physical examination at the beginning of the University School year to determine his general fitness for active participation in University activities. During the year he must demonstrate ability, beyond that of a novice, in at least three different activities.

All female students are required to take four semester hours of physical education unless permanently exempted.

Students entering with 58 hours credit are exempted.

THE COLLEGE OF ENGINEERING CURRICULA

The several four-year curricula are set up to give, in the first two years, a well-rounded training in the basic sciences of mathematics, chemistry, and physics

and in English. A moderate amount of shop work, drawing and surveying is given to introduce the student to the practical side of engineering.

This is followed by such technical subjects as mechanics, thermodynamics, and electricity, the degree of emphasis varying somewhat with the curriculum followed. These courses bridge the gap between the pure sciences and the professional courses.

In the third and fourth years special emphasis is placed on the professional work of the engineer. In the fourth year a certain number of credit hours are available for electives. These electives may be technical subjects, a list of which is given for each curriculum, or they may include advanced military courses up to and including 6 credit hours; or they may include, subject to the approval of the head of department, wholly or in part nontechnical subjects in the field of English, geology, journalism, speech, foreign language, history, political science, sociology, philosophy, economics, business administration, psychology, and humanities or any course in the 200 series.

1. A four-year curriculum leading to the degree of Bachelor of Science in Aeronautical Engineering.
2. A four-year curriculum leading to the degree of Bachelor of Science in Agricultural Engineering.
3. A four-year curriculum leading to the degree of Bachelor of Science in Chemical Engineering, with options in metallurgy and ceramics.
4. A four-year curriculum leading to the degree of Bachelor of Science in Civil Engineering, with option in sanitary engineering.
5. A four-year curriculum leading to the degree of Bachelor of Science in Electrical Engineering, with options in power and communications.
6. A four-year curriculum leading to the degree of Bachelor of Science in Mechanical Engineering, with option in power and industrial engineering.
7. Combined science and engineering curricula extending over five or more years leading to the degree of Bachelor of Science, and Bachelor of Science in Engineering.

Plan for Numbering Courses

For convenience it is customary to designate the course of study by the name of the department or group of departments and the number of the particular course. Whenever reference is made to engineering courses in the course announcements and textual matter the department or groups of departments will be indicated as follows:

Aeronautical Engineering	A.E.	Mechanical Engineering	M.E.
Agricultural Engineering	Ag.E.	Mechanics	M.
Chemical Engineering	Ch.E.	Mining Engineering	E.M.
Civil Engineering	C.E.	General	G.
Electrical Engineering	E.E.		

Classification of Students

To be classified as a freshman in the College of Engineering or School of Mines a student must have credit for at least 15 units of entrance requirements. To be classified as a sophomore he must have credit toward his degree for 30 hours; as a junior 72 hours; as a senior 112 hours; except that a student who is a candidate for the degree of Bachelor of Science to be classified as a sophomore must have credit for 27 hours of college work; as a junior, 60 hours; as a senior, 94 hours.

The Freshman Schedule

In order to permit all students in the College of Engineering and the School of Mines to have a year in which to find out definitely what curriculum they wish to pursue, the first year of all engineering curricula is made uniform. To

assist the student in making an intelligent choice, a series of weekly lectures is given throughout the first semester explaining the work of the several branches of engineering.

FIRST YEAR

(Identical for all engineering and mining courses)

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem 1—Inorganic Chem.	4	C.E. 1—Surveying	2
Eng. 1—Comp. and Rhet.	3	Chem. 2—Inorganic Chem.	4
G. 1—Engineering Lectures		Eng. 2—Comp. and Rhet.	3
Math. 3—College Algebra	3	Math. 5—Analytical Geom.	4
Math. 4—Plane Trig.	3	M.E. 26 Descriptive Geom.	3
M.E. 20—Mechanical Drawing	3	Mil. 2—Mil. or Air	2
Mil. 1—Mil. or Air	2	P.E. 2—Ser. Prog. (Men)	1
P.E. 1—Ser. Prog. (Men)	1		
	19		19

CURRICULUM IN AERONAUTICAL ENGINEERING

Degree: Bachelor of Science in Aeronautical Engineering

Aeronautical Engineering includes the following major subjects: Theroretical aerodynamics, applied aerodynamics, aircraft structures, propulsion, and aircraft design. Owing to the rapid progress in aeronautical science in the past fifteen years, each of these represents a particular field of specialization.

The aeronautical engineering curriculum is designed to prepare the student for any of the fields listed above. With the exception of electives, all of the courses are considered to be fundamental and are required of all students. Elective courses are taken during the senior year and furnish an opportunity for the student to take advanced work in any field he chooses.

The first year for aeronautical engineering students is the same as that for all freshmen in the College of Engineering. A six-week summer term is scheduled after the first two semesters of the freshman year. It consists of three courses of a laboratory nature. Because of the large number of laboratory courses in the engineering curriculum, it is essential that the student take the summer program of shop and laboratory work.

Courses outlined for the second year also are of a fundamental nature. Except for a few variations, the sophomore program resembles those of the other engineering curricula. The second-year program includes physics, calculus, statics, mechanism, machine design, economics, and public speaking. By the end of the second year the student is expected to have a command of written and spoken English, mechanical drawing, and sufficient mathematics and mechanics to prepare him for the advanced work to follow.

Advanced courses begin in the third year. The curriculum for the junior year consists chiefly of work in aeronautical engineering, mechanics, thermodynamics, the last required course in mathematics and a course in ferrous and nonferrous metallurgy.

The fourth year is made up almost entirely of courses in the Aeronautical Engineering department. Two courses in electrical engineering and a course in business law are included in the senior program. Six hours of electives are required. An inspection trip is required of all fourth-year students. This trip is made in the spring and may include visits to government aeronautical research laboratories or aircraft manufacturing plants.

Many laboratory courses are included in the curriculum. They are taken in conjunction with the work of a theoretical nature. In addition to their instructional value, the laboratory courses afford an excellent opportunity for the student to acquire practical laboratory techniques. Third-year and fourth-year laboratory courses are operated much the same as industrial and research laboratories operate

The Aeronautical Engineering laboratories consist of:

1. *Aerodynamics Laboratory*—a 200-mile-per-hour wind tunnel is used for supplementing instruction in theoretical aerodynamics, stability determination, airplane performance and for instruction in instrumentation.
2. *Structures Laboratory*—for static testing of airplane components, center of gravity determination on complete airplanes and for supplementing the theory of stress analysis.
3. *Design Laboratory*—for fourth-year courses in aerodynamic and structural design.
4. *Engine and Instrument Shop*—for the course A.E. 15, Aircraft Repair and Maintenance.
5. *Flight Hangar*—for purposes of flight training in University airplanes and for furnishing opportunity for first-hand instruction in aircraft operation and maintenance. The flight program is approved by the Civil Aeronautics Authority. Students may obtain a private pilot certificate after two semesters of flight training.
6. *Flight Test Airplane*—a Cessna model 170A airplane is used as a flying laboratory for a course in flight testing.

SUMMER SESSION FOLLOWING FIRST YEAR*

	Hr.
A.E. 15—Aircraft Repair and Maintenance	2
M.E. 7—Welding and Heat Treatment	1
M.E. 11—Machine Work	2
	5

SECOND YEAR

First Sem.	Hr.	*Second Sem.*	Hr.
Econ. 30—Fund. of Economics	3	M. 101—Statics	3
Math. 107—Calculus	4	Math. 108—Calculus	4
M.E. 25—Elements of Mach. Design	2	M.E. 29—Mechanism	4
Mil. 3—Mil. or Air	2	Mil. 4—Mil or Air	2
Phys. 105—General Physics	4	Phys. 106—General Physics	4
Phys. 107—General Physics Lab.	1	Phys. 108—General Physics Lab.	1
Speech 11—Public Speaking	3		
	19		18

THIRD YEAR

First Sem.	Hr.	*Second Sem.*	Hr.
A.E. 201 Elementary Aerodynamics	3	A.E. 202 Aerodynamics	3
C.E. 115 Fluid Mechanics	2	A.E. 204 Airplane Performance	3
G. 101 Engineering Society	½	A.E. 210 Basic Aircraft Structures	4
Math. 253 Adv. Math. for Eng'rs	3	A.E. 221 Aircraft Engines	3
M.E. 221 Thermodynamics	3	Ch.E. 150 Metallurgy	3
M. 102 Mechanics of Materials	4	G. 102 Engineering Society	½
M. 104 Kinetics	3	M. 103 Materials Testing Lab.	1
		M.E. 122 Mechanical Lab.	2
	18½		19½

*First Year Curriculum: See pages 242-243.

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
A.E. 206 Stability and Control	2	A.E. 205 Experimental Aerodynamics	2
A.E. 207 Aerodynamic Design	3	A.E. 212 Applied Aircraft Design	3
A.E. 211 Redundant Aircraft Struc.	4	E.E. 103 Elements of Electric. Eng.	4
A.E. 213 Aircraft Structures Lab.	1	Electives	6
A.E. 215 Princ. of Aircraft Design	2	G. 104 Engineering Society	½
A.E. 225 Aircraft Engine Lab.	1	G. 190 Business Law	3
E.E. 102 Elements of Electr. Eng.	4	Inspection Trip	
G. 103 Engineering Society	½		
	17½		18½

RECOMMENDED ELECTIVES

	Hr.		*Hr.*
A.E. 203 Chordwise & Spanwise Airload Distribution	3	Flight Training	1-3
A.E. 208 Flight Testing	2	Mil. 105-108 Advanced Military	1-6
A.E. 214 Advanced Aircraft Structures	3	Nontechnical†	1-6
A.E. 220 Seminar	2-6		
A.E. 222 Aircraft Propulsion	2		
A.E. 299 Thesis	2-6		

†See pages 241-242 for list of subjects.

CURRICULUM IN AGRICULTURAL ENGINEERING

Degree: Bachelor of Science in Agricultural Engineering

Agricultural Engineering is the application of engineering principles to agriculture. Success in the application of engineering fundamentals to the agricultural industry requires knowledge of both the biological and physical sciences. The purpose of the course is to give the student who completes it general training in agricultural and engineering fundamentals. Considerable stress is given to basic requirements of plant and animal life on the farm which affect engineering practices, but greater emphasis is placed on a thorough knowledge of those underlying principles and methods which are the foundation of all the engineering professions.

The first two years are devoted to those basic preparatory courses which are essential to the more technical work which follows in the third and fourth years.

The studies pursued during the third and fourth years are of fundamental importance to the agricultural engineer. Although the curriculum gives no opportunity for specialization, Agricultural Engineering is made up of four major fields. These are Farm Power and Machinery, Farm Structures, Soil and Water Conservation, and Rural Electrification.

Power and Machinery involves all power used in agriculture, except electricity, and all farm implements and machines and their components and related equipment.

Rural Electrification involves all activities concerned primarily with application of electricity to farm and farmstead, especially the creation of distinctly economic agricultural uses for electricity.

Farm Structures involves all buildings and in general fixed improvements of equipment or farm and farmsteads.

Soil and Water involves all measures of an engineering nature for the conservation, utilization, and management of soil and water resources.

Students preparing to take Agricultural Engineering should present for entrance as many units as possible in mathematics, chemistry, and physics; also sufficient farm experience to meet the College of Agriculture requirements.

Occupations and Opportunities. Some of the organizations and industries employing agricultural engineers are electric power companies and co-operatives; farm machinery manufacturers and distributors; manufacturers and distributors of building materials; oil companies; electric equipment and other supplies for farm utilities; trust companies; farm management agencies; federal agencies such as Soil Conservation Service, U. S. Department of Agriculture, Forest Service, Bureau of Reclamation, Production and Marketing Administration, Federal Land Bank, and Indian Service; colleges and universities; Army and Navy, and foreign governments.

Opportunities for employment are numerous. At no time since the establishment of the profession has it been crowded; the outlook is good for a continuance of this situation. With agriculture becoming increasingly mechanized, the demand for agricultural engineers is increasing and should continue to increase. New opportunities arise as mechanization continues. Starting salaries are in line with salaries in other branches of engineering.

SUMMER SESSION FOLLOWING FIRST YEAR*

	Hr.		Hr.
Econ. 30—Fund. of Economics	3	M.E. 11—Machine Work	2
M.E. 7—Welding & Heat Treatment	1	M.E. 12—Machine Work	1
			7

SECOND YEAR

First Sem.	Hr.	*Second Sem.*	Hr.
Agron. 1—Farm Crops	4	Bot. 2—General Botany	4
Math. 107—Calculus	4	Math. 108—Calculus	4
M.E. 29—Mechanism	4	M. 101—Statics	3
Mil. 3—Mil. or Air	2	Mil. 4—Mil. or Air	2
Phys. 105—G. Physics	4	Phys. 106—G. Physics	4
Phys. 107—G. Physics Lab.	1	Phys. 108—G. Physics Lab.	1
	19		18

THIRD YEAR

First Sem.	Hr.	*Second Sem.*	Hr.
Chem. 131—Organic Chem.	4	Dairy Husb. 12—Farm Dairying	3
E.E. 102—Elem. of E.E.	4	E.E. 103—Elem. of E.E.	4
G. 101—Engineering Society	½	G. 102—Engineering Society	½
M.E. 221—Thermodynamics	3	M.E. 113—Machine Design	4
M. 102—Mech. of Matls.	4	M.E. 222—Heat Engines	3
Speech 13—Public Spk.	2	M. 104—Kinetics	3
	17½		17½

FOURTH YEAR

First Sem.	Hr.	*Second Sem.*	Hr.
Ag. E. 140—Soil & Water Cons.	3	Ag. E. 100—Farm Structures	3
Ag. E. 230—Farm Power	4	Ag. E. 110—App. of E. to Agr.	2
C.E.115—Fluid Mechanics	2	Ag. E. 190—Farm Machinery	3
C.E. 122—Structural Eng'g	3	Agron. 102—Soils	4
C.E. 201—Hydraulic Measurements	1	Bus. 5—Accounting	3
G. 103—Engineering Society	½	G. 104—Engineering Society	½
Hort. 103—Prin. of Hort.	3	M.E. 203—Adv. Machine Design	4
M.E. 123—Eng'g. Lab.	2		
	18½		19½

*First Year Curriculum: See pages 242-243.

CURRICULUM IN CHEMICAL ENGINEERING

Degrees: *Bachelor of Science in Chemical Engineering*

The standard four-year course in chemical engineering has been developed to qualify young men for positions in operation, design, construction, and management of manufacturing plants in which raw materials are subjected to chemical changes to produce finished products. This curriculum includes fundamental courses: in mathematics through calculus; in chemistry—inorganic, analytical, organic, and physical; in physics; in basic engineering—surveying, mechanical drawing, mechanics, and strength of materials; in electrical engineering; in metallurgy; in chemical engineering—principles, calculations, thermodynamics, design, unit operations, unit processes, and economics; in electro-chemical, inorganic, and organic technology. This curriculum provides the student with a broad foundation in the fundamental principles of those subjects which wide experience has shown are essential for a successful career in the chemical engineering profession; or as engineers in any industry involving a succession of unit operations and unit processes.

To complete the requirements for the B.S.Ch.E. Degree in four years, students should follow the curriculum as outlined, taking all required shop courses and speech in the Summer Session; it is also definitely advisable to take Organic Chemistry 233 and 238 in the Summer Session before the third year. Modifications in the standard chemical engineering curriculum for the ceramic and metallurgy options are outlined below.

Students preparing to take chemical engineering should present for entrance as many units as possible in mathematics, chemistry, and physics, also units in German, French, or Spanish. While certain basic courses in English, economics, and public speaking are required in the regular Ch.E. curriculum, a student will obtain a broader education in economics, history, language, science, applied technology, and engineering by taking the combined Bachelor of Science and Chemical Engineering course. By a careful selection of electives both degrees may be earned in five years.

In recognition of the increasing tendency on the part of industry to promote engineers to administrative and executive positions, the curriculum has been broadened to include more required work in the field of humanities. In addition, the number of hours of elective courses have been increased, all of which may be selected from the humanities and business administration courses.

The department, along with the other departments of the College of Engineering and School of Mines is a part of the Engineering Experiment Station. The combined facilities of the Department and the Station are available for investigation and research. The greater number of projects are so selected that graduate students, and to some extent undergraduate students, participate in the program. The work of the Engineering Experiment Station thus is part of the educational program.

Ceramics Option— Chemical engineering and ceramics have many basic concepts and engineering principles in common. Students selecting the ceramics option can obtain all required courses in chemical engineering and should take the following as their senior electives: Ch.E. 260 (3 hr.), Ch.E. 261 (3 hr.), Ch.E. 262 (2 hr.), Ch.E. 263 (2 hr.) and Ch.E. 264 (3 hr.). Students showing marked ability in ceramics may select Ch.E. 297 (2-5 hr.) in place of either of the latter two courses. Most students graduating with ceramic option complete more than the required number of hours, hence should preferably take also Ch.E. 281 (2 or 3 hr.) and Ch.E. 282 (2 hr.).

Metallurgy Option—The metallurgical industries apply many of the unit operations and fundamental principles studied in the chemical engineering curriculum. Students selecting the metallurgy option should take the Ch.E. 251 (2 hr.), Ch.E. 252 (2 hr.), Ch.E. 253 (2 hr.) and Ch.E. 255 (2 hr.) and should preferably also take M. 103 (1 hr.), Ch.E. 260 (2 or 3 hr.), Ch.E. 262 (2 hr.), Ch.E. 281 (2 or 3 hr.) and Ch.E. 282 (2 hr.). Students having special aptitude in metallurgy may take Ch.E. 297 (2-5 hr.). By taking these elective courses the student should be well prepared to begin his career in a metallurgical industry.

SUMMER SESSION FOLLOWING FIRST YEAR*

	Hr.
M.E. 7—Welding and Heat Treatment	1
M.E. 11—Machine Work	2
Speech 13—Public Speaking	2

SECOND YEAR

First Sem.	Hr.	*Second Sem.*	Hr.
Ch.E. 100—Ch.E. Operations	2	Ch.E. 140—Ch.E. Calculations	2
Chem. 15—Quant. Analysis	3	Eng. 126—Adv. Comp.	2
Econ. 30—Fund. of Economics	3	M. 101—Statics	3
Math. 107—Calculus	4	Math. 108—Calculus	4
Mil. 3—Mil. or Air	2	Mil. 4—Mil. or Air	2
Phys. 105—G. Physics	4	Phys. 106—G. Physics	4
Phys. 107—G. Physics Lab.	1	Phys. 108—G. Physics Lab.	1
	19		18

THIRD YEAR

First Sem.	Hr.	*Second Sem.*	Hr.
Ch.E. 205—Principles of Ch.E.	5	Ch.E. 150—Gen. Metallurgy	3
Chem. 233—Organic Chem.	4	Ch.E. 207—Prin. of Ch.E.	5
Chem. 260—Physical Chem.	4	Chem. 238—Organic Chem	4
G. 101—Engineering Society	½	Chem. 261—Physical Chem.	4
M. 102—Mech. of Materials	4	Electives	2
		G. 102—Engineering Society	½
	17½		18½

FOURTH YEAR

First Sem.	Hr.	*Second Sem.*	Hr.
Ch.E. 211—Chem. Eng'g. Lab.	2	Ch.E. 212—Chem. Eng'g. Lab.	2
Ch.E. 234—Inorg. Chem. Tech.	2	Ch.E. 235—Org. Chem. Tech.	2
Ch.E. 242—Ch.E. Thermo.	3	Ch.E. 238—Electrochem. Ind.	3
Ch.E. 272—Ch.E. Design	3	Ch.E. 243—Ch.E. Thermo.	3
Electives	4	Ch.E. 273—Chem. Eng'g. Design	3
E.E. 110—Elements of E.E.	5	Electives	5
G. 103—Engineering Society	½	G. 104—Engineering Society Inspection Trip	½
	19½		18½

RECOMMENDED ELECTIVES

C.E. 122—Structural Eng'g	2-3	Geol. 1—G.Geology	3
Ch.E. 297—Thesis	2-5	German 1 and 2	6
Ch.E. 281—Fuels Technology	2-3	Mil. 105-108—Adv. Military	1-6
Ch.E. 253—Nonferrous Met.	2	M. 103—Matls. Test. Lab.	1
Ch.E. 252—Ferrous Metallurgy	2	M.E. 205—Industrial Eng'g	3
Ch. E. 262—Refractories	2	Nontechnical†	1-6

*First Year Curriculum: See pages 242-243.
†See pages 241-242 for list of subjects.

CURRICULUM IN CIVIL ENGINEERING

Degree: Bachelor of Science in Civil Engineering

The civil engineering curriculum has been planned to give a broad coverage of those general and scientific subjects that form the foundation of all engineering and a special training in the civil engineering field. The first year's work is the same as that for other branches of engineering, permitting the student to select his field after a year of college study.

Some general subjects are included in most of the semesters of the four-year program. These are intended to improve and enrich the student's contacts with other people and include English, public speaking, economics, accounting, and business law. In addition to drawing, physics, and mathematics, which form the roots of an engineering course, the student investigates such fields as chemistry, geology, and bacteriology. These give a breadth of training in the sciences.

A thorough study of the fundamentals of plane and topographic surveying is scheduled for the first two years and the following summer when the student spends five weeks at Camp R. L. Morris near Terra Alta, West Virginia, concentrating on field surveys. Professional training in photogrammetry may be elected during the fourth year to round out this work.

Courses in mechanics, electrical engineering, and heat and power engineering furnish breadth of training in engineering and depth of training comes from professional work in highway, railway, structural, sanitary, and hydraulic engineering, any of which may be the specialty of the civil engineer.

Civil Engineering includes the measurement of land surfaces and the production of maps, the design, construction, and operation of transportation facilities, the design and construction of fixed structures, sanitary and municipal engineering, and hydraulic engineering.

The measurement of land surfaces is done by some kind of surveying such as plane, topographic, or geodetic. The survey may be conducted entirely on the surface or it may combine the use of surface and aerial methods. Transportation facilities divide readily into highway, railway, water, and air groups, the work of the civil engineer being most directly concerned with the construction and maintenance of the fixed portions of the system in each case. Among the large number of fixed structures in the civil engineer's field are bridges, buildings, tunnels, subways, foundations, walls and piers. Sanitary and municipal engineering cover the design, maintenance, and operation of water supplies, water purification plants, distribution systems, sewer systems, sewage-disposal plants, and garbage-disposal plants. Hydraulic engineering deals with the design and construction of water-power installations, dry docks, locks and dams, flood control, and irrigation projects.

The civil engineering professional field is too wide to be covered thoroughly in a four-year course. For this reason, during the last year of the course, certain options are offered. In addition to the sanitary engineering option outlined below, the student in the fourth year is offered a choice between taking two elective courses or doing research and preparing a thesis.

Civil Engineering: Sanitary Option

Students in civil engineering who desire to specialize in sanitary engineering are required to make the following regular substitutions:

Fourth year: first semester: C.E. 202, Water Purification, 3 hr., for C.E. 103. C.E. 117, Municipal Engineering, is required instead of the 2 hours of elective subjects. Second semester: C.E. 203, Sewage Disposal, 3 hr., for C.E. 204. C.E. 281, Civil Problems, is required instead of 2 hours of elective subjects.

SECOND YEAR*

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 10—Quant. Analysis	2	C.E. 3—Railroad Curves	2
C.E. 2—Surveying	4	Geol. 1—G. Geology	3
Math. 107—Calculus	4	Math. 108—Calculus	4
Mil. 3—Mil. or Air	2	M. 101—Statics	3
Phys. 105—Gen. Physics	4	Mil. 4—Mil. or Air	2
Phys. 107—Gen. Physics Lab.	1	Phys. 106—Gen. Physics	4
Speech 13—Pub. Spk.	2	Phys. 108—Gen. Physics Lab.	1
	19		19

C.E. 4—Summer Surveying (five weeks) 5

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
C.E. 110—Struct. Drafting	2	Bact. 141—Bacteriology	3
Econ. 30—Fund. of Econ.	3	Bus. 110—Acct. for Engrs.	2
E.E. 110—Elements of E.E.	5	C.E. 101—El. of Hwy. Eng'g.	3
G. 101—Engineering Society	½	C.E. 115—Fluid Mechanics	2
M. 102—Mech. of Materials	4	C.E. 121—Structural Eng'g.	4
M. 103—Materials Test. Lab.	1	C.E. 201—Hydraulic Measurements	1
M.E. 220—Heat & Power Eng'g.	3	G. 102—Engineering Society	½
		Geol. 2—Geol. Lab.	1
		M. 104—Kinetics	3
	18½		19½

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
C.E. 103—Highway Design	3	C.E. 102—Railway Eng'g.	3
C.E. 116—Water Supply Eng'g.	4	C.E. 118—Sewerage	3
C.E. 120—Materials of Constr.	2	C.E. 204—Advanced Structs.	3
C.E. 123—Bridge Design	3	C.E. 206—Reinforced Concrete	3
C.E. 207—Foundations	3	Electives—(see below)	2
Electives—(see below)	2	G. 104—Engineering Society	½
G. 103—Engineering Society	½	G. 190—Business Law	3
		Inspection Trip	
	17½		17½

RECOMMENDED ELECTIVES

C.E. 124—Thesis	2-4	C.E. 210—Photogrammetry	2
C.E. 200—Water Power Eng'g.	2	Mil. 105-108—Adv. Military	1-6
C.E. 208—Trans. Econ.	2	†Nontechnical	1-4
C.E. 209—Highway Lab.	2		

NOTE: Students offering 6 hours of Advanced Military for Engineers toward their degree are not required to take Speech 13.

*First Year Curriculum: See pages 242-243.

†See pages 241-242 for list of subjects.

CURRICULUM IN ELECTRICAL ENGINEERING

Degree: Bachelor of Science in Electrical Engineering

The course in electrical engineering has been developed for the purpose of giving the student who completes the course general training in engineering fundamentals and broad training in the field of electrical engineering. Special training in the electrical power field and the communications field or both is available in the senior year.

In the first two years of electrical engineering the work is confined mostly to those subjects which are essential as preparatory courses for the more technical courses in the third and fourth years.

The first year is the same as that for all freshmen in the College of Engineering. A summer term is scheduled between the first and second year. It consists of one shop course and an elementary electrical engineering course, part of which is laboratory and shop work. It is advisable for students to plan to attend this summer term so that they may continue the regularly scheduled courses during the remaining three years. In many cases, students elect to take additional courses during this summer term, thus reducing their schedule in the remaining years. With a few exceptions, the schedule of courses in the sophomore year is the same as those of other departments. These courses also are of a fundamental nature.

During the third year, fundamental courses in electrical engineering are introduced. An additional mathematics course of special importance to electrical engineering is included, as well as other fundamental engineering subjects.

In the fourth year the curriculum is made up almost entirely of courses in electrical engineering. During this year, the student elects a group of courses pertaining to the field of communications or to the field of electric power (see below). The student also has a choice of six hours of elective courses. The electives may be technical or nontechnical subjects, thus giving the student an opportunity to either broaden his training or to continue further specialization in engineering fields.

It will be observed that for many of the courses scheduled in this curriculum, the work of the classroom is supplemented by concurrent work in the laboratory or drafting room. By means of experimental work in the laboratory, followed with well-written reports and problems in the design of electrical apparatus, the student acquires a clearer conception of the facts and principles discussed in the classroom and also a working knowledge of the subject matter. All of this is essential if he is to become a successful electrical engineer.

In the course in electrical industry as a public utility, general economic considerations are applied to the generation, transmission, and utilization of electrical power, together with the selection of electrical and allied equipment from an economic standpoint; also a study and analysis is made of rate structures. This course and the courses in business law, English, and economics are valuable inclusions in the electrical engineering curriculum for the student who is interested in taking up administrative work.

Communications Option—Students in Electrical Engineering who desire to specialize in the field of communications are required to take the following courses in their senior year: E.E. 262, Communications Lab (1 hr.); E.E. 264, Radio Engineering (3 hr.); and E.E. 265, Radio Laboratory (3 hr.). Courses required for power option may be used as electives.

Power Option—Students who desire to specialize in the field of electric power are required to take the following courses in their senior year: E.E. 234, A.C. Machinery Laboratory (1 hr.); E.E. 282, Symmetrical Components (3 hr.); and M.E. 222, Heat Engines (3 hr.). Courses required for communications option may be used as electives.

SUMMER SESSION FOLLOWING FIRST YEAR*

	Hr.		Hr.
E.E. 10 Intro. Elect. Eng'g.	3	M.E. 11—Machine Work	2

SECOND YEAR

First Sem.	Hr.	*Second Sem.*	Hr.
Econ. 30—Fund. of Economics	3	E.E. 100—Fund. of Elec.	4
Eng. 126—Adv. Comp.	2	M. 101—Statics	3
Math. 107—Calculus	4	Math. 108—Calculus	4
Mil. 3—Mil. or Air	2	Mil. 4—Mil. or Air	2
Phys. 105—G. Physics	4	Phys. 106—G. Physics	4
Phys. 107—G. Physics Lab.	1	Phys. 108—G. Physics Lab.	1
Speech 11—Public Spk.	3		
	19		18

THIRD YEAR

First Sem.	Hr.	*Second Sem.*	Hr.
E.E. 130—D. C. Machinery	3	E.E. 232—A. C. Machinery	4
E.E. 131—D. C. Mach. Lab.	2	E.E. 243—Elect Calc.	2
E.E. 135—A. C. Theory	3	E.E. 250—Electronics	4
E.E. 136—A. C. Theory Lab.	2	E.E. 260—Network Anal	3
G. 101—Eng'g. Society	½	G. 102—Eng'g. Society	½
Mathematics 253	3	M. 102—Mech. of Materials	4
M. 104—Kinetics	3	M.E. 122—Mech. Lab.	2
M.E. 221—Thermo.	3		
	19½		19½

FOURTH YEAR

First Sem.	Hr.	*Second Sem.*	Hr.
C.E. 115—Fluid Mechanics	2	E.E. 245—Electric Control	2
E.E. 233—A.C. Machinery	4	E.E. 264—Radio Eng'g and	
E.E. 234—A. C. Machinery Lab.		E.E. 265—Radio Lab.	
or E.E. 262—Communications	1	or E.E. 282—Symmetrical Comp.	
E.E. 252—Electronics	4	and M.E. 222—Heat Engines	6
E.E. 261—Transmission Lines	3	E.E. 270—Elect. Ind. as Pub. Utility	3
Electives	3	Electives	3
G. 103—Eng'g. Society	½	G. 104—Eng'g. Society	½
		G. 190—Business Law	3
		Inspection Trip	
	17½		17½

RECOMMENDED ELECTIVES

Ch.E. 238—Electrochem, Indc.	2-3	Adv. Math. or Physics	3-6
E.E. 104—Illumination	2	Mil. 105-108—Adv. Mil.	1-6
E.E. 280, 281—Elec. Prob.	1-6	M.E. 223—Steam Pow. Plants	3
E.E. 284—Transients	3	M.E. 228—Eng'g Lab.	2
E.E. 285—Elect. Pow. Trans. & Dist.	3	M. 201—Adv. Kinetics	3
E.E. 286—Industrial Control	3	Nontechnical†	1-6
E.E. 287—Ind. Electronics	3		
E.E. 288—Antennas	3		
E.E. 299—Ultra-high-freq. Tech.	3		

*First Year Curriculum: See pages 242-243.
†See pages 241-242 for list of subjects.

CURRICULA IN MECHANICAL ENGINEERING

Degree: Bachelor of Science in Mechanical Engineering

The purpose of the course in mechanical engineering is to give the student such mental equipment as will enable him to deal most effectively both technically and commercially with general engineering problems. All possible practice is given in the work that an engineer is ordinarily called on to do, but greater stress is laid on a thorough knowledge of those underlying fundamental principles and methods which are the foundation of all engineering professions. To this is added courses in economics, cost accounting, and business law. These furnish fundamental business training so essential for the engineer. Courses in speech, engineering society and participation in the student branch of the American Society of Mechanical Engineers provides basic training in public address.

The first and second years are devoted to those basic preparatory courses which are essential to the more technical courses which follow in the third and fourth years. This preparatory instruction supplies the requisite foundation in English, mathematics, chemistry, physics, statics, drafting, descriptive geometry, mechanism, and shop practice.

Fundamental drafting-room procedure is taught in the first year and this is supplemented by shop work, beginning in the summer following the first year. This is planned to give a knowledge of fundamental machine tools and methods of production, which, when combined with the study of mechanism, machine design, and power-plant design in the second, third, and fourth years, will enable the student to work out designs that are both practical in operation and economical to manufacture.

The work in pure mathematics is terminated at the end of the second year, and applications follow in recitation room courses in mechanism, statics, mechanics of materials, kinetics, dynamics, machine design, thermodynamics and other technical courses. Power engineering begins with the course in thermodynamics in the third year and is continued by the courses in heat engines, internal combustion engines, and power plant design. A sufficient amount of electrical engineering is given in the third and fourth years to enable the student to handle engineering operations involving the simple electrical problems, and additional courses are available as electives.

The engineering laboratories provide the student with practice in testing, operating, and caring for a large variety of machinery, including steam, air, gas, hydraulic, material-testing, internal combustion, and power-transmission machinery. The student becomes familiar with the various test codes of the recognized national societies. One-half day a week is devoted to this work during the last two years.

Electives are provided in the fourth year that enable the student to specialize in the technical field or to acquire a broader cultural background. The student interested in the technical electives may specialize in the power field or in the industrial field in accordance with his natural inclination. Students interested in the power field pursue courses in steam turbines, heating, ventilating, and air conditioning. Students interested in the industrial field pursue courses in problems of organization and management of industries, motion and time study, quality and quantity control, and related subjects

The curriculum is broad, highly technical, and designed to meet the needs of young men interested in the scientific aspects of industry. The young graduate ordinarily enters a graduate apprenticeship in a public utility, manufacturing, or operating organization where opportunity is provided for his development in research, design, operation, sales, or administration, depending upon his interests and aptitudes and upon the opportunities available.

A student who desires a broader training in the liberal arts subjects than is provided in the regular four-year curriculum may take a combined bachelor of science and mechanical engineering course. By a careful selection of electives and proper sequence of registration, both degrees may be earned in five years.

SUMMER SESSION FOLLOWING FIRST YEAR*

	Hr
M.E. 11—Machine Work	2
M.E. 12—Machine Work	1
M.E. 15—Welding, Forming and Heat Treatment	2
	5

SECOND YEAR

First Sem.	Hr.	*Second Sem.*	Hr.
Chem. 10—Quant. Analysis	2	M. 101—Statics	3
Math. 107—Calculus	4	Math. 108—Calculus	4
M. E. 16—Mfg. Processes	2	M. E. 25—Elem. of Mach. Desn.	2
M. E. 29—Mechanism	4	Mil. 4—Mil. or Air	2
Mil. 3—Mil. or Air	2	Physics. 106—G. Physics	4
Physics 105—G. Physics	4	Physics 108—G. Physics Lab.	1
Physics 107—G. Physics Lab.	1	Speech 13—Public Spk.	2
	19		18

THIRD YEAR

First Sem.	Hr.	*Second Sem.*	Hr.
Econ. 30—Fund. of Econ.	3	Bus. 110— Acct. for Engs.	2
E. E. 102—Elements of E. E.	4	E. E. 103—Elements of E. E.	4
G. 101—Engineering Society	½	G. 102—Engineering Society	½
M. 102—Mech. of Materials	4	M. 104—Kinetics	3
M. 103—Materials Test Lab.	1	M. E. 105—Machine Constr.	2
M. E. 122—Mechanical Lab.	2	M. E. 113—Machine Design	4
M. E. 221—Thermodynamics	3	M. E. 222—Heat Engines	3
	17½		18½

FOURTH YEAR

First Sem.	Hr.	*Second Sem.*	Hr.
Ch. E. 150—Metallurgy	3	E.E. 174—Ind. App. of Elec. Cont.	3
C. E. 115—Fluid Mechanics	2	G. 104—Engineering Society	½
C. E. 201—Hydraulic Measurements	1	G. 190—Business Law	3
G. 103—Engineering Society	½	M. E. 227—Pow. Plant Design	2
M. E. 123—Eng'g. Lab.	2	M. E. 228—Eng'g. Lab.	2
M. E. 203—Machine Design	4	M. E. 229—Int. Comb. Engines	3
M. E. 223—Steam Pow. Plants	3	Inspection Trip	
Electives—(see below)	3	Electives—(see below)	6
	18½		19½

RECOMMENDED ELECTIVES

M. E. 106—Shop Methods	2 or 3	Ch. E. 281—Fuels Technology	2 to 3
M. E. 124—Thesis	2 to 4	E.E. 243—Elect. Cal.	2
M. E. 161—Precision Meas. & Gage	2	Flight Training	1 to 3
M. E. 224—Steam Turbines	3	Mil. 105-108—Adv. Military	1 to 6
M. E. 250—Heat. Vent. & Air Cond.	3	†Nontechnical	1 to 9
M.E. 270—Industrial Lub.	3		

*First Year Curriculum: See pages 242-243.
†See pages 241-242 for list of subjects.

Curriculum in Industrial Engineering Option—Mechanical Engineering

Degree: Bachelor of Science in Mechanical Engineering

Industrial engineering is a relatively new branch of engineering. The industrial engineer must combine his knowledge of engineering principles with everyday manufacturing operations in order that the product be produced in larger and sufficient quantities at a minimum cost. The field of the industrial engineer is that of the process, production and cost expert engaged in planning, organizing, improving, managing, and operating the various processes for producing all kinds of manufactured products.

The purpose of the industrial option is to provide training for those students who are interested in the managerial and technical activities in the engineering field. The option is basically engineering with its foundation in mathematics and the sciences, but the emphasis is upon the human factors and the economic aspects which are essential in engineering work.

There are many new problems challenging industry. Industrial engineers are being called upon more and more to answer this challenge. Their job is to coordinate the man, machines, materials, and methods into a smooth-running organization.

The first and second years are devoted to basic courses in English, mathematics, chemistry, physics, statics, mechanism, drafting and shop practice which are essential to the more technical courses that follow in the third and fourth years.

Industrial engineering includes motion and time study analysis for work simplification and standardization, control of quality and quantity of production through modern mass production methods, establishment of cost standards and reduction of costs through improved methods of manufacture, and technical aspects of personnel management in such activities as job evaluation and wage incentives.

The laboratories provide the student with practice in the various phases of industrial engineering. Facilities are also available for research and development of methods and procedures of manufacture and control.

Besides giving the engineering fundamentals, the industrial option provides for basic course work in the fields of mechanical and electrical engineering. The studies prescribed within the option provide for intensive training in the various branches of industrial engineering. The specialization courses starting in the junior year are planned for progressive instruction in the principles and techniques of industrial engineering as practiced in industry. Additional course work is provided in the field of statistics. Statistics as a tool in industrial engineering has been increasing steadily, its greatest contribution in recent years being in the control of quality of manufactured products by statistical method.

The department annually sponsors an Industrial Engineering Conference. Students are encouraged to attend the meetings and thus are afforded an opportunity of hearing opinions expressed by men of national recognition.

West Virginia has many types of industries in which industrial engineers may be profitably employed. Greater efficiency in operations as well as the expansion of industrial activities in the state will maintain the need for graduates in this ever developing field.

SUMMER SESSION FOLLOWING FIRST YEAR*

	Hr.
M.E. 11—Machine Work	2
M.E. 12—Machine Work	1
M.E. 15—Welding, Forming and Heat Treatment	2
	5

*First Year Curriculum: See pages 242-243.

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Math. 107—Calculus	4	Eng. 126—Adv. Composition	2
M.E. 16—Mfg. Processes	2	M. 101—Statics	3
M.E. 27—Mechanism	2	Math. 108—Calculus	4
M.E. 30—Industrial Org.	2	M.E. 25—Elem. of Mach. Design	2
Mil. 3—Mil. or Air	2	Mil. 4—Mil. or Air	2
Phys. 105—G. Physics	4	Phys. 106—G. Physics	4
Phys. 107—G. Physics Lab.	1	Phys. 108—G. Physics Lab.	1
Speech 13—Public Speaking	2		
	19		18

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Bus. 5—Prin. of Acct.	3	Bus. 6—Prin. of Acct.	3
Econ. 30—Fund. of Economics	3	G. 102—Engineering Society	½
G. 101—Engineering Society	½	M. 104—Kinetics	3
M. 102—Mech. of Matls	4	M.E. 113—Machine Design	4
M.E. 122—Mechanical Lab.	2	M.E. 142—Production Control	3
M.E. 140—Motion & Time Study	3	M.E. 144—Eng'g Statistics	3
M.E. 221—Thermodynamics	3	M.E. 222—Heat Engines	3
	18½		19½

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Ch.E. 150—Metallurgy	3	C.E. 115 Fluid Mechanics	2
G. 103—Engineering Society	½	E.E. 110—Elem. of E.E.	5
M.E. 286—Eng'g Economy	2	G. 104—Engineering Society	½
M.E. 288—Job Eval. & Wage Incentive	3	G. 190—Business Law	3
M.E.—290—Industrial Statistics	3	M.E. 292—Plant Layout & Design	2
Psy. 114—Psychology of Mgt.	3	M.E. 294—Std. Mfg. Costs	3
Electives	3	Electives	3
	17½		18½

RECOMMENDED ELECTIVES

M.E. 106—Shop Methods	2-3	Econ. 140—Labor Problems	3
M.E. 124—Thesis	2-4	E.M. 117—Industrial Safety Eng'g	3
M.E. 210—Tool Engineering	3	Mil. 105-108—Adv. Mil. for Eng'rs	1-6
M.E. 211—Ind. Eng'g Prob.	3	†Nontechnical	1-6
M.E. 250—Heat. Vent. & Air Cond.	3		
M.E. 270—Industrial Lub.	3		

†See pages 241-242 for list of subjects.

THE SCHOOL OF MINES CURRICULA*

Degree: Bachelor of Science in Engineering of Mines

1. A four-year curriculum leading to the degree of Bachelor of Science in Engineering of Mines, with options in coal mining and in geological, petroleum, and natural gas engineering.

2. Combined science and engineering curricula extending over five or more years leading to the degrees of Bachelor of Science and Bachelor of Science in Mining Engineering in the School of Mines.

Mining engineering deals with the processes and appliances used in the extraction of minerals from within the earth and their utilization. Not only must the mining engineer be thoroughly trained in mining and geology, but also in the application of the fundamental principles of civil, electrical, and mechanical engineering to mining conditions.

The first two years of the course in mining engineering are devoted to thorough training in underlying principles of mathematics, geology, physics, chemistry, and English. These are supplemented by courses in drawing and surveying, including mine surveying. For the last two years of the course two options are provided, one in coal mining and one in geological, oil, and gas engineering. The student is permitted to state his choice of option at the beginning of the third year. Summer employment is usually arranged for students desiring it, and such work is encouraged.

Mining Engineering: Coal Mining Option

In the Coal Mining Option the study of coal mining is taken up in the third year. This study includes the geology and classification of coals; explosives and blasting; prospecting; shaft sinking and tunneling; methods of working; haulage, hoisting, and pumping; and preparation of coal for the market. A course in the projection of mine workings and the design of mining plants is offered throughout the fourth year. A course in the utilization of mining machinery, with particular reference to electrical equipment, is required in the senior year. A thorough course in mine gases and the ventilation of mines is given in the first half of the fourth year, supplemented by work in the mining laboratory. The course in fuels is designed to impart knowledge of the various fuels utilized in engineering practice, while the courses in metallurgy acquaint the student with the minerals and processes used in manufacture of iron and steel. The course in mine management presents the economic, social, governmental, labor, and financial consideration to be met in successful management of a mining enterprise.

The study of steam engineering begins with the course in heat and power engineering. Thorough groundwork in engineering principles is acquired in the five mechanics courses.

Practice in the handling and care of instruments and machinery and in the solution of practical engineering problems is offered in the mechanical laboratory. These courses are followed by courses in electrical engineering, structural engineering, and mine equipment and machinery.

Training in the science of geology is offered by the course in mineralogy and general geology. These courses may be supplemented by study of the economic geology of the nonmetallic minerals in the fourth year, special attention being paid to the geology of coal, oil, and gas. Should the student desire further work in geology, such courses are offered as elective subjects.

Courses in economics and business law furnish fundamental business training so essential for the engineer. Local coal fields and mining operations are utilized extensively for instruction and field work.

*The freshman year of these curricula is common with the freshman year in the College of Engineering. This provision permits a student to postpone choice of curricula until after a year of college work.

SECOND YEAR*

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Physics 105—G. Physics	4	Physics 106—G. Physics	4
Physics 107—G. Physics Lab.	1	Physics 108—G. Physics Lab.	1
Math. 107—Calculus	4	Math. 108—Calculus	4
Mil. 3—Mil. or Air	2	Mil. 4—Mil. or Air	2
Chem. 10—Quant. Analysis	2	M. 101—Statics	3
Geol. 1—General Geology	3	E.M. 103—Mine Surveying	3
Geol. 2—General Geology Lab.	1	E.M. 106—Mineralogy	2
Speech 13—Effective Speaking	2		
	19		19

E.M. 102—Summer Mine Surveying (six weeks) 5

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
E.E.102—Elements of E.E.	4	E.E. 103—Elements of E.E.	4
M. 102—Mech. of Materials	4	M. 104—Kinetics	3
M. 103—Materials Test Lab.	1	E.M. 212—Coal Mining	4
E.M. 111—Intro. Mining	2	Ch.E. 250—Metallurgy	3
E.M. 107—Mining Methods	4	C.E. 115—Fluid Mechanics	2
M.E. 220—Heat and Power Eng'g.	3	C.E. 201—Hydraulic Measurements	1
E.M. 202—Coal Analysis Lab.	1	G. 102—Engineering Society	½
G. 101—Engineering Society	½		
	19½		17½

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
C.E. 122—Structural Eng'g	3	G. 190—Business Law	3
E.M. 115—Mine Design	2	E.M. 114—Mine Management	2
E.M. 213—Mine Ventilation	3	E.M. 116 Mine Design	3
Econ. 30—Fund. of Econ.	3	E.M. 119—Mine Equip. & Mach.	2
E.M. 121—Coal Preparation	4	E.M. 215—Ind. Safety Eng'g.	2
G. 103—Engineering Society	½	Bus. 110—Accounting for Engineers	2
Electives—(see below)	3	G. 104—Engineering Society	½
		Inspection Trip	
		Electives..(see below)	3
	18½		17½

RECOMMENDED ELECTIVES IN THE COAL MINING OPTION

	Hr.		*Hr.*
E.M. 120—Thesis	2-4	M.E. 140—Motion and Time Study	3
E.M. 203—Geo. Survey	3	M.E. 144—Engineering Statistics	3
E.M. 214—Coal Prod., Cost Control and Economics	3	Geol. 111—Economic Geol.	3 or 4
Ch.E. 253—Non. Fer. Met.	2	Geol. 3—Historical Geol.	3
E.E. 274—Ind. Applications of Electricity	3	Geol. 4—Hist. Geol. Lab.	1
C.E. 206—Concrete Const.	3	Geol. 108—Nat. Resources and Geology of West Virginia	2 or 3
Ch.E. 281—Fuel Technology	3	Mil. 105-108—Adv. Military	1-6
Ch.E. 282—Fuel Technology	3	†Nontechnical	1-6

*First Year Curriculum: See pages 242-243.
†See pages 241-242 for list of subjects.

Mining Engineering: Geological, Petroleum, and Natural Gas Option

This option is planned to meet the needs of the engineer specializing in petroleum and natural-gas engineering and for engineers interested in the geological aspects of mining rather than the actual operation of a mining property. There is a growing demand for the so-called mining geologist who, while he has had a thorough training in the fundamentals of engineering in general and of mining engineering in particular, yet is especially qualified to work out the detailed geological features of mining properties and to make reports on them. This is particularly true in the case of oil and gas companies, where accurate knowledge in advance of actual drilling operations is of the greatest importance in the economical development of the field. Besides the opportunities offered by mining companies, many of our railroads maintain a corps of geologists while the several states and federal government are continually carrying on geological investigations. This course also offers an excellent preparation for those who propose to do graduate work.

Particular emphasis is placed on the development, production, distribution, and utilization of natural gas and petroleum. This is an engineering field essential to modern industry offering many opportunities for the technically trained student. Local production fields, compressor stations, and refineries coupled with new equipment facilities offer many unique advantages in this field of engineering.

In the third year the course differs from the coal-mining option in that organic chemistry, petroleum, natural gas, and geological courses are subtituted for the courses in coal mining. A course in field geology in which the student prepares a geological map and a complete report on an assigned area enables him to apply the geological knowledge received in various courses. An introductory course in geophysics acquaints the student with methods and calculations used in prospecting for oil and mineral deposits and in field practice with the instruments used. The fundamentals of mining and metallurgy are studied in the third year as well. The study of oil and gas geology treats of the origin, properties, distribution, and mode of accumulation of oil and gas, and familiarizes the student with all available sources of information on this subject. The courses in oil and gas production, core-analysis laboratory, and oil-refining deal with the subjects of the chemical and physical properties of petroleum and natural gas, their extraction, and subsequent treatment, the valuation of oil and gas properties, reports on them, and the actual testing in the laboratory of various oils, oil shales, and natural gas. The problems of natural-gas measurement and distribution are particularly stressed in conjunction with a gas laboratory where gas measurement and regulation equipment is calibrated and used.

A thorough grounding in the fundamentals of business is afforded by the courses in economics, accounting, and business law.

SECOND YEAR*

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Physics 105—G. Physics	4	Physics 106—G. Physics	4
Physics 107—G. Physics Lab.	1	Physics 108—G. Physics Lab.	1
Math. 107—Calculus	4	Math. 108—Calculus	4
Mil. 3—Mil. or Air	2	Mil. 4—Mil. or Air	2
E.M. 103—Mine Surveying	3	E.M. 106—Mineralogy	2
Geol. 1—General Geol.	3	Chem. 15 Quant. Analysis	3
Geol. 2—Gen. Geol. Lab.	1	M. 101—Statics	3
	18		19

E.M. 102—Summer Mine Surveying (six weeks) 5

*First Year Curriculum: See pages 242-243.

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 233—Organic Chem.	4	M. 104—Kinetics	3
Geol. 3—Historical Geol.	3	Speech 13—Effective Speaking	2
Geol. 4—Hist. Geol. Lab.	1	C.E. 201—Hydraulic Measurements	1
M. 102—Mech. of Materials	4	E.M. 204—Oil and Gas Production	4
M. 103—Materials Test. Lab.	1	Ch.E. 186—Oil Lab.	1
Ch.E. 250—Metallurgy	3	C.E. 115—Fluid Mechanics	2
E.M. 201—Oil Field Development	2	Bus. 110—Accounting for Engineers	2
G. 101—Engineering Society	½	G. 190—Business Law	3
		G. 102—Engineering Society	½
	18½		18½

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Econ. 30—Fund. of Econ.	3	M.E. 220—Heat and Pow'r. Eng'g.	3
Ch.E. 286—Petroleum Tech.	2	E.M. 208—Geol. Surveying	1
E.E. 110—Elements of E.E.	5	Geol. 272—Petroleum Geol.	3
Geol. 151—Structural Geol.	3	Geol. 161—Field Geol.	3
E.M. 205—Gas Meas. Eng'g.	2	Ch.E. 282—Fuel Technology	3
E.M. 216—Petroleum Eng'g. Design	2	G. 104—Engineering Society	½
G. 103—Engineering Society	½	Electives (see below)	4
Electives (see below)	2	Inspection Trip	
	19½		17½

RECOMMENDED ELECTIVES IN PETROLEUM AND NATURAL GAS OPTION

E.M. 212—Coal Mining 4
E.M. 120—Thesis 2-4
Mil. 105-108—Adv. Military 1-6
E.M. 206—Elem. of Geophysical Prospecting ..... 2 or 3
Econ. 140—Labor Problems 3
E.M. 207—Intro. Seismology 1
C.E. 206—Reinforced Concrete 3
M.E. 270—Industrial Lubrication 3
Geol. 172—Econ. Geol. (Non-Met.) 3
M.E. 229—Int. Comb. Engines 3
Geol. 170—Natural Resources and Geology of West Virginia ..... 2 or 3
†Nontechnical 1-6

FIVE YEAR CURRICULA

Degrees: Bachelor of Science in conjunction with a Degree in Engineering or Mining Engineering

These curricula are designed to meet the needs of students who wish a broader training in liberal-arts subjects than is provided in a four-year curriculum.

(A) Requirements for the degree of Bachelor of Science

Subject	*Hours*
The requirements in the first three years of any four-year engineering curriculum[18]	116[19]-119[19]
Additional economics (group requirements of 6 hours)	1-3
One foreign language	12
Elective from one of the following groups: (1) English, journalism, speech; (2) foreign language; (3) history; (4) political science; (5) philosophy and sociology; (6) business administration.	6
Total	136[19]-140[19]

†See pages 241-242 for list of subjects.

(B) Requirements for the Bachelor of Science degree in Engineering or Engineering of Mines to be conferred upon completion of the fifth year:
The work outlined for the fourth year in the department in which the first degree was taken 37-33
Total for five years ..... 173[19]-175[19]

GRADUATE CURRICULA

Graduate work leading to the degree of Master of Science in Engineering is offered in all departments. In certain departments courses leading to the degree of Doctor of Philosophy are also offered. The student who plans to pursue graduate work is directed to the courses as outlined in the Graduate School section of the *Catalog*.

SPECIAL ENGINEERING CURRICULA

1. *Elective Groups for Students in Other Colleges.* Candidates for degrees other than engineering degrees and special students in any department of the University are permitted to elect subjects in the College of Engineering and the School of Mines, provided, in each case, they have had the subjects specified as prerequisites. Students who wish to take a general classical or scientific course of study before taking the engineering curriculum are advised to carry their mathematics as far as called for by the engineering curriculum, and to take some of their elective work in the College of Engineering.

2. *Partial Curriculum.* Students who have not the time or are otherwise unable to take full curriculum will be allowed to take a special or partial curriculum, consisting of such studies as they are prepared to take, provided such curriculum shall have been approved by the adviser. For further information see statement of requirements for admission as special students.

PROFESSIONAL DEGREES

The University confers the following professional degrees: Chemical Engineer (Ch.E.), Civil Engineer (C.E.), Electrical Engineer (E.E.), Mechanical Engineer (M.E.), and Engineer of Mines (E.M.), upon graduates of the College of Engineering and of the School of Mines of West Virginia University on the basis of practical experience and study in absentia, the presentation of a thesis, and oral final examination.

To be eligible, a candidate for a professional degree must have been in active practice of his profession for at least five years since receiving his first degree, and must have been in responsible charge of important work for at least two years.

Application for registration as a candidate for a degree should be made not later than October 1 in the year in which the degree is expected. Detailed regulations and registration blanks may be obtained from the Dean of the College of Engineering or the Director of the School of Mines.

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[18]Students maintaining a grade point average of 2.5 or over may be granted separately the Bachelor of Science Degree; otherwise the conferring of this degree will be deferred until the student has satisfied the requirements of the engineering degree.

[19]These figures include the present University requirements for 8 hours in military science and 2 hours in physical education.

COURSES OF INSTRUCTION

AERONAUTICAL ENGINEERING

Professor Seltzer and Assistant Professor Ulrich.

Undergraduate Division

A. E.

15. Aircraft Repair and Maintenance. S. 2 hr. PR: Enrollment in Aeronautical Engineering. Repair and maintenance of engines, carburetors, propellers, accessories and instruments. Hydraulic equipment, electrical equipment, fuel systems, airframe repairs. 6 hr. lab. Staff

201. Elementary Aerodynamics. I. 3 hr. PR:M. 101. Physical properties of air, airfoils, effect of planform, induced drag, parasite drag. Engine characteristics, propellers, Airplane performance at sea level and altitude. 3 hr. rec. Mr. Seltzer

202. Aerodynamics. II. 3 hr. PR: Math. 253, A.E. 201, M.E. 221 and C.E. 115. Steady flow of incompressible and compressible fluids, dimensional analysis, viscous flow. Stream functions of two dimensional ideal flows, boundary layer theory. 3 hr. rec. Mr. Seltzer

203. Chordwise and Spanwise Air-load Distribution. II. 3 hr. PR: A.E. 202. Chordwise and spanwise air-load distribution for plain wings, wings with aerodynamic and geometric twist, wings with deflected flaps, and wings with ailerons deflected. Section induced drag characteristics. 3 hr. rec. Mr. Seltzer

204. Airplane Performance. II. 3 hr. PR: A.E. 201. Review of aircraft power plants, including effect of supercharging and constant speed propellers. Complete performance analysis by chart methods. Gas turbine-jet aircraft performance with compressibility effect. Helicopter performance. 3 hr. rec. Mr. Seltzer

205. Experimental Aerodynamics. II. 2 hr. PR: A.E. 202. Wind tunnel testing methods and equipment and wind tunnel boundary corrections. Experiments include: Yaw characteristics of Pitot-static tubes, pressure distribution on wings and circular cylinders, boundary layer determination, determination of wind tunnel turbulence, force tests of wings and airplane models, stability and performance determination and corrections for scale effect. 1 hr. lec., 3 hr. lab. Mr. Seltzer

206. Stablity and Control. I. 2 hr. PR: A.E. 202. Determination of criteria for static stability. Detailed study of requirements for satisfactory flying qualities of aircraft. Determination of control surface characteristics. Slipstream effects. Dynamic stability. 2 hr. rec. Mr. Seltzer

207. Aerodynamics Design. I. 3 hr. PR: A.E. 204, and registration in A.E. 206 and A.E. 215. Preliminary design of aircraft. Inboard profiles, design, weight and balance calculations; three view drawings. Airplanes are designed to specifications with respect to performance and stability. 6 hr. lab. Staff

208. Flight Testing. II. 2 hr. PR: A.E. 204. Flight test theory and practice. Data on stability and performance taken in Cessna 170A airplane. Flight test data reduction practice. 1 hr. lec., 3 hr. lab. Mr. Seltzer

210. Basic Aircraft Structures. II. 4 hr. PR: M.102 and M. 103. Design of elementary structural forms, truss analysis and use of thin sheet in aircraft. Deflections by Virtual Work, Least Work and Williot Diagram. 3 hr. lec., 3 hr. prob. Mr. Ulrich

211. Redundant Aircraft Structures. I. 4 hr. PR: A.E. 210 or equivalent. Con

tinuation of A.E. 210. Analysis and design of statically indeterminate structures used in aircraft. Design for achieving high strength/weight ratios. 3 hr. lec., 3 hr. prob. Mr. Ulrich

212. Applied Aircraft Design. II. 3 hr. PR: A.E. 204, A.E. 206, A.E. 207, A.E. 211, and A.E. 215. Structural design of airframe members to C.A.A. requirements. The work is performed on the airplane designed in A.E. 207 during the previous semester. Layout and detail design of specified components are required. 6 hr. lab. Staff

213. Aircraft Structures Laboratory. I. 1 hr. PR: A.E. 211. Strength tests of aircraft materials, airplane center of gravity determination, static test of airplane ribs, bending and torsion of shell structures, inspection by Magnaflux, compression tests of thin-walled structures. 3 hr. lab. Mr. Ulrich

214. Advanced Aircraft Structures. II. 3 hr. PR: A.E. 211, Incomplete tension fields, critical loads, torsional column failure, instability of flat sheets, cylindrical structures. 3 hr. rec. Mr. Ulrich

215. Principles of Aircraft Design. I. 2 hr. PR: M. 102, 103 and 104. This course furnishes much of the information used in A.E. 207. It includes approximations for preliminary design calculations, aircraft standards, sources of materials, detailed study of equipment and mechanical systems, weight determinations. 2 hr. rec. Mr. Ulrich

220. Seminar. I, II. 2-6 hr. PR: Senior standing and permission of the instructor. Special material and projects. Staff

222. Aircraft Propulsion. II. 2 hr. PR: A.E. 201 and M. 102. Momentum Theory. The Simple Blade Element Theory. Modifications of the Blade Element Theory. Effect of blade shape, tip speed on propeller efficiency. Construction of constant speed propellers. Gas turbine-jet power plants. Ram-jets Liquid and solid fuel rockets. 2 hr. lec. Mr. Seltzer

280, 281. Aeronautical Problems. I, II. 1-3 hr. Upper division and graduate. Staff

299. Thesis. I, II. 2-6 hr. PR: Senior standing and permission of the instructor. Staff

AVIATION

Professor Seltzer and Flight Supervisor Henry; Flight Instructors Bennett and Lloyd.

Undergraduate Division

A.E.

*170. Aviation Ground School. I, II, S. 2 hr. Nomenclature of aircraft, civil air regulations, navigation, meteorology, and aircraft engines. Staff

*171. Flight Training. I, II, S. 1 hr. PR: A.E. 170. Beginning flight instruction and training consisting of 20 hours of flight time. The student will have approximately 12 hours of dual and 8 hours of solo flying in this course. Special flight fee $100, payable at registration. Staff

*172. Flight Training. I, II, S. 1 hr. PR: A.E. 171. Continuation of A.E. 171, consisting of 20 hours flight time. This course, together with A.E. 171, should enable a student to obtain the required flight time and necessary experience to prepare him for a C.A.A. private pilot's examination. Special flight fee of $100, payable at registration. Staff

*173. Advanced Flight Training. I, II, S. 1 hr. PR: A.E. 172. Twenty hours flight training of an advanced nature, including radio and instrument navigation and procedures and advanced cross-country flying. Link Instrument Trainer

instruction may be taken concurrently. Flight instruction given in Cessna airplanes. Special flight fee of $100, payable at registration. Staff

AGRICULTURAL ENGINEERING

Professor Longhouse and Instructors Kjelgaard and Reid.

Undergraduate Division

Ag.E.

100. Farm Structures. II. 3 hr. PR: C.E. 122. Structural design and functional requirements of farm service buildings. 2 hr. rec., 3 hr. lab. Mr. Longhouse

110. Application of Electricity to Agriculture. II. 2 hr. PR: E.E. 103. Economic application of electric light, heat, and power in Agriculture. 1 hr. rec., 3 hr. lab. Mr. Kjelgaard

140. Soil and Water Conservation. I. 3 hr. PR: C.E. 115. Engineering principles and practices in the conservation, utilization, and management of soil and water resources. 2 hr. rec., 3 hr. lab. Staff

190. Farm Machinery. II. 3 hr. PR: M.E. 203. Construction, operation, adjustment, and testing of farm machines. 2 hr. rec., 3 hr. lab. Staff

230. Farm Power. I. 4 hr. PR: M.E. 222. Fundamental theories underlying design and operation of internal-combustion engines used in the agricultural industry. 3 hr. rec., 3 hr. lab. Mr. Longhouse

Graduate Division

320, 321. Special Topics. I. II. S. 2-4 hr. Staff

397, 398. Research. I, II. 1-6 hr. Staff

CHEMICAL, METALLURGICAL, AND CERAMIC ENGINEERING

Professors Koehler and Simons; Associate Professors Fairbanks and P. R. Jones; Instructors Crewe and Galli; Lecturers Leva and Sebastian.

Undergraduate Division

Ch. E.

100. Chemical Engineering Operations. I, II, S. 2 hr. Primarily for engineering students. An introduction to the various operations and equipment used in the chemical engineering industries. 2 hr. rec. Mr. Crewe

*140. Chemical Engineering Calculations. I. 2 hr. PR: Chem. 2 and Math. 3. Industrial stoichiometry; industrial calculations involving material and energy balances. Mr. Koehler

*150. General Metallurgy. I, II. 3 hr. PR: Phys. 106. Process and physical metallurgy; heat treating; alloys; fabrication and instrumentation. 3 hr. rec. Mr. Fairbanks

*160. Practical Pottery. SI, SII. 2 hr. Fundamentals of clay working. 6 hr. lab. Mr. Jones

186. Oil Laboratory. II. 1 hr. PR: Chem 6 or 15. Standard petroleum laboratory testing methods and procedures. Primarily for students taking Petroleum and Natural-gas Option. 3 hr. lab. Mr. Galli

*200. Chemical Engineering Operations. I, II, S. 2 hr.. Similar to Ch. E. 100 but primarily for chemistry majors. 2 hr. rec. Mr. Crewe

205. Principles of Chemical Engineering. I. 5 hr. PR or conc: Chem. 260 Ch.E. 100 or 200. Theory and application of the unit operations of chemical engineering. 3 hr. rec., 6 hr. calc. lab. Mr. Simons and Mr. Galli

207. Principles of Chemical Engineering. II. 5 hr. Continuation of Ch.E. 205. 3 hr. rec., 6 hr. calc. lab. Mr. Simons and Mr. Galli

211, 212. Chemical Engineering Laboratory. I, II, S. 2 hr. PR: Ch.E. 207. Experimental work in the unit operations; practice in writing engineering reports. 6 hr. lab. Mr. Crewe and Staff

224. Unit Organic Processes. II. 3 hr. PR: Chem. 238 and Ch.E. 207. Unit processes involved in the synthetic organic chemicals industries. 3 hr. rec. Mr. Simons

*234. Inorganic Chemical Technology. I, II, S. 2 hr. A survey of the manufacturing procedures employed in the inorganic process industries, including theory, equipment and economics. 2 hr rec. Mr. Galli

*235. Organic Chemical Technology. I, II, S. 2 hr. Similar to Ch.E. 234 but dealing with organic process industries. 2 hr. rec. Mr. Galli

*238. Electrochemical Industries. I, II. 2 or 3 hr. PR: Chem. 2 and PR or conc: E.E. 110 or Chem. 260. Industrial electrochemical processes and equipment; primary and secondary cells; manufacture of chemicals; electroplating, electrorefining and electrometallurgy; electric furnaces, corrosion; electrostatics; electronics. 2 hr. rec., 3 hr. lab. Mr. Koehler and Mr. Crewe

242. Chemical Engineering Thermodynamics. I. 3 hr. PR: Ch.E. 140 and Chem. 261. Applications of themodynamics to chemical engineering; relationships between the fundamental and thermodynamic functions; thermodynamic transformations. 3 hr. rec. Mr. Leva

243. Chemical Engineering Thermodynamics. II. 3 hr. PR: Ch.E. 242. Applications of thermodynamics to non-ideal gases; construction of thermodynamic diagrams; mechanical work in non-ideal systems; fugacity, activity, and chemical potential; chemical reaction equilibria; physical equilibria. 3 hr. rec. Mr. Leva

251. Metallography Laboratory. I, II. 2 hr. Preparation of ferrous and non ferrous samples for micro-photography; heat treating, carburization; physical testing and X-ray studies of metals. 6 hr. lab. Mr. Fairbanks

252. Ferrous Metallurgy. I. 2 hr. PR: Ch.E. 150. The making, shaping, alloying, and heat treating of steel. 2 hr. rec. Mr. Fairbanks

253. Nonferrous Metallurgy. II. 2 hr. PR: Ch.E. 150. Nature of ores, benefication, smelting, refining, alloying, uses, heat treating, and properties of the major nonferrous metals. 2 hr. rec. Mr. Fairbanks

255. Metallurgical Calculations. II. 2 hr. PR: Ch.E. 150. Material and heat balances, charge, heat transfer and power calculations, and cost analysis. 2 hr. rec. Mr. Fairbanks

258. Aircraft Structural Materials. I. 2 hr. PR: A.E. 211. Heavy and light alloys, plastics, fabrics, woods, and other major materials used in production of aircraft. 2 hr. rec. Mr. Fairbanks

*260. General Ceramics. I, II. 3 hr. PR: Chem. 15. Ceramic raw materials, body preparation, drying and firing. 2 hr. rec. 3 hr. lab. Mr. Jones

261. Ceramics. I, II. 3 hr. PR: Ch.E. 260. Detailed study of structural clay products, porcelains, chinas, and earthenwares. 2 hr. rec., 3 hr. lab. Mr. Jones

262. Refractories. I. 2 hr. PR: Ch.E. 260. Manufacture, properties, uses, of

standard tests and phase diagrams of refractory materials. 2 hr. rec.
Mr. Koehler and Mr. Jones

*263. Glass. II. 2 hr. PR or conc: Chem. 15. Physical and chemical properties of glass. Methods of analysis of glass and raw materials. Theory and practice of manufacture. 2 hr. rec. Mr. Jones

264. Enamels, Glazes, and Colors. II. 3 hr. PR or conc: Ch.E. 261. Preparation and application of enamels, glazes, and colors. Physical tests and detailed study of problems. 1 hr. rec., 6 hr. lab. Mr. Jones

*267. Practical Pottery. SI. 2 hr. 6 hr. lab. Continuation of 160. Mr. Jones

*268. Pottery and Ceramic Art. SII. 2 hr. 6 hr lab. Mr. Jones

272. Chemical Engineering Design. I. 3 hr. PR: Ch.E. 207, M. 102. C.E. 115 and Econ. 30. Design of process equipment from economic, chemical and engineering considerations. Study of plant location and layout. 2 hr. rec., 3 hr. lab. Mr. Simons and Mr. Galli

273. Chemical Engineering Design. II. 3 hr. Continuation of Ch.E. 272. 2 hr. rec., 3 hr. lab. Mr. Simons and Mr. Galli

*281. Fuel Technology. I. 2 or 3 hr. PR: Chem. 15. Technology of solid fuels. Classification and reserves. Analysis and testing. Origin, occurrence, composition and properties. Mining and methods of manufacture. Principles of carbonization, gasification and combustion. Fuel engineering calculations. Nucleonic fuels and their use in nuclear power plants. Economic aspects. 2 hr. rec., 3 hr. lab. Mr. Sebastian and Mr. Crewe

*282. Fuel Technology. II. 2 or 3 hr. PR: Ch.E. 281. Technology of gaseous and liquid fuels. Classification and reserves. Analysis and testing. Origin, occurrence, composition and properties. Methods of production. Natural gas and petroleum. Refining and cracking processes. Manufactured fuel gases. Storage and transmission. Combustion processes and burner designs. Gasification and combustion calculations. 2 hr. rec., 3 hr. lab.
Mr. Sebastian and Mr. Crewe

284. Industrial Instrumentation and Control. I, II, S. 3 hr. PR: Math. 108. Discussion of process characteristics, theory and application of measuring means. Theory, modes and application of automatic control. Selection and characteristics of final control elements. 3 hr. rec. Mr. Koehler and Mr. Galli

286. Petroleum Technology. I. 2 hr. PR: Chem 233. Discussion of crude oil desalting, distillation, natural gasoline recovery, thermal and catalytic cracking, solvent refining, dewaxing, filtration, blending and compounding of petroleum products. 2 hr. rec. Mr. Galli

297, 298. Thesis. I, II. 2-5 hr. A problem in chemical engineering or industrial chemistry is selected for investigation. A carefully prepared report is required. Open only to qualified seniors. 6-15 hr. lab. Staff

Graduate Division

300. Seminar. I, II, S. 1-6 hr. Hours to be arranged. Staff

304. Advanced Unit Operations: Diffusion. I, II, S. 2-5 hr. PR: Ch.E. 207 and 243. Advanced theory and laboratory work in the diffusional operations including absorption and extraction in their various aspects. 2 hr. rec., 0-9 hr. lab.
Mr. Simons

305. Advanced Unit Operations: Drying. I, II, S. 2-5 hr. PR: Ch.E. 207. Advanced study of psychrometric principles and the various drying theories. 2 hr. rec., 0-9 hr. lab. Mr. Koehler

306. Advanced Unit Operations: Heat Transfer. I, II, S. 2-5 hr. PR: Ch.E. 207. Same as Ch.E. 304, but dealing with heat transfer, evaporation, and crystallization. 2 hr. rec., 0-9 hr. lab. Mr. Simons

307. Advanced Unit Operations: Distillation. I, II, S. 2-5 hr. PR: Ch.E. 207. Advanced study of vaporization principles of separation of liquid mixtures, steam, batch, continuous, azeotropic, extractive and molecular distillation. 2 hr. rec., 0-9 hr. lab. Mr. Simons

323, 324. Advanced Unit Processes. I, II, S. 2-5 hr. PR: Chem. 238 and Ch.E. 207. Advanced study of the unit processes with application to process development. 2 hr. rec., 0-9 hr. lab. Mr. Simons

*340. Phase Equilibria. I, II, S. 2 hr. PR: Chem. 261. Interpretation, construction and applications of one, two, and three-component diagrams; applications of the phase rule. 2 hr. rec. Mr. Koehler

344. Advanced Chemical Engineering Thermodynamics. I, II, S. 3 hr. PR: Ch.E. 243. Review of thermodynamic transformations, use of Jacobians; advanced applications to chemical and physical equilibria; development and applications of phase rule; equilibria diagrams for non-ideal systems; determination and use of activity coefficients; methods of estimating thermodynamic functions; introduction to statistical mechanics. 3 hr. rec. Mr. Leva

345. Chemical Engineering Kinetics. I, II, S. 3 hr. PR: Ch.E. 243. Applications of chemical kinetics to industrial reactor design; review of physical chemical principles; theories of reactions, design of batch and flow reactors; theories of catalysis; reaction mechanisms; data interpretation; applications to design of catalytic reactors; effects of diffusion on catalytic reactions. 3 hr. rec. Mr. Leva

*350. Advanced Physical Metallurgy. I. 3 hr. PR: Ch.E. 150. Includes crystallization, plastic deformation and constitutional diagrams. 3 hr. rec. Mr. Fairbanks

*351. Advanced Metallography Laboratory. I, II. 3 hr. PR: Ch.E. 251. Includes a study of slip bands, precipitation hardening. isothermal transformation of austenite, hardenability, powder metallurgy and crystallography. 9 hr. lab. Mr. Fairbanks

352. Advanced Ferrous Metallurgy. I. 3 hr. PR: Ch.E. 252. Recent developments in making, shaping, alloying, and heat treating of steel. 3 hr. rec. Mr. Fairbanks

353. Advanced Nonferrous Metallurgy. II. 3 hr. PR: Ch.E. 253. Recent developments in beneficiation, reduction, refining, alloying, and heat treating of nonferrous metals. 3 hr. rec. Mr. Fairbanks

355. Advanced Metallurgical Calculations. II. 3 hr. PR: Ch.E. 243. Comprehensive problems on metallurgical processes. Mr. Fairbanks

372. Advanced Chemical Engineering Design. I, II, S. 2-5 hr. PR: Ch.E. 273. Critical discussion of and practice in equipment-design methods. 2 hr. rec., 0-9 hr. lab. Mr. Simons

379. Seminar in Coal Research. I, II. 1 or 2 hr. PR: Consent. Credit 1 hr. per semester, maximum credit 2 hr. In cooperation with other departments and the Bureau of Mines. 1 hr. rec. Mr. Koehler

381. Advanced Fuel Engineering. I. 3 hr. PR: Ch.E. 282. 3 hr. rec. Mr. Koehler

397, 398. Research. I, II, S. PR: Ch. E. 207 and 212. Credit to be arranged. Suitable problem in chemical engineering, metallurgy, ceramics, or fuels is selected for investigation. Mr. Koehler and Staff

CIVIL ENGINEERING

Professors Davis, Downs and Speiden; Associate Professor Baker; Instructors D'Errico and Duncan.

Undergraduate Division

C.E.

*1. Surveying. I, II. 2 hr. PR: Math. 4. Primarily for freshmen. Elementary theory of measurement of distance, direction and difference in elevation. Field work with transit, level, tape and stadia. Office computations and plotting. 1 hr. rec., 3 hr. lab. Staff

*2. Surveying. I. 4 hr. PR: C.E. 1. Further theory of and practice with surveying instruments; plane table, topographic and hydrographic surveying, triangulation, field astronomy; office computations and plotting. 3 hr. rec., 3 hr. lab. Mr. Baker

*3. Railroad Curves. II. 2 hr. PR: C.E. 2. Simple, compound, reversed and transition curves; vertical curves; earthwork measurement, calculation and distribution. 2 hr. rec. Mr. Baker

4. Summer Surveying. S. (5 weeks) 5 hr. PR: C.E. 3. Field practice in topographic, hydrographic, route, plane table and property surveys, bench mark levels, triangulation; astronomical observations; computations and map plotting. Mr. Baker

*5. Land Surveying. I. 4 hr. PR: Math. 10. Primarily for forestry students. Theory and practice with compass, transit, level, stadia, and plane table; computations of area; astronomical observations; map plotting. 2 hr. rec., 6 hr. lab. Staff

*6. Topographic Mapping. II. 2 hr. PR: C.E. 5. Primarily for forestry students. Topographic maps; surveys for roads and property lines; U.S. Public Land Surveys; practice in lettering, plotting and inking of topographic maps. 1 hr. rec., 3 hr. lab. Staff

101. Elements of Highway Engineering. II. 3 hr. PR: C.E. 4. Subgrade soils; drainage; highway design, construction and maintenance; types of pavements; surveys, plans and specification; highway economics, financing and administration. 3 hr. rec. Mr. Downs

102. Railway Engineering. II. 3 hr. PR: C.E. 4. The development of American railroads, and their present status. Organization, construction maintenance. Locomotives, steam, electric, diesel and turbine. The economic principles of railway location, grade and operations. 3 hr. rec. Mr. Downs

103. Highway Design. I. 3 hr. PR: C.E. 101. Preliminary line and topography from survey notes. Center-line projection; profile; cross-sections; grade projection; earth work; mass diagram; revisions. 9 hr. lab. Mr. Downs

*110. Structural Drafting. I, II. 2 hr. PR: M.E. 20. Lettering; symbols; detail drawings, pencil and ink tracings of parts of steel and concrete structures. 6 hr. lab. Staff

*115. Fluid Mechanics. I, II, S. 2 hr. PR or Conc: M. 104. Static liquids and gases; Bernoulli Theorem; Reynolds number; orifices and weirs; pipe flow for liquids and gases under turbulent and laminar conditions; uniform and nonuniform flow in open channels; the hydraulic jump; kinetics of liquids. 2 hr rec. for 2 hr. credit or 2 hr. rec. and 3 hr. lab. for 3 hr. credit. Staff

116. Water-supply Engineering. I. 4 hr. PR: CE. 115. Quantity required; sources of supply; quality of water supplies; construction of water works; water treatment; pumping and distribution. 3 hr. rec., 3 hr. lab. Mr. Speiden

117. Municipal Engineering. I. 2 hr. PR: C.E. 115. Required for Sanitary Engineering option. Water supply and treatment; sewage collection and disposal; refuse; insect and rodent control; milk and food sanitation; industrial hygiene; swimming pool sanitation. 2 hr. rec. Mr. Speiden

118. Sewerage. II. 3 hr. PR: C.E. 115. Uniform and non-uniform flow in open channels; quantity of sewage; rainfall and runoff; separate and combined systems; inverted siphons; design of a sewerage system; appurtenances. 2 hr. rec., 3 hr. lab. Mr. D'Errico

*120. Material of Construction. 2 hr. PR: M. 102. The properties of materials; wood, stone, lime and mortars, cement, iron and steel. Nonferrous metals, bitumens and paints; their economic use in engineering structures. 2 hr. rec. Mr. Downs

121. Structural Engineering. II. 3 or 4 hr. PR: M. 102. Stresses in bridge and roof trusses, graphically and analytically; dead and live loads; highway and railway loads; influence lines; beams and girders; riveted and welded connections; bridge portals and mill building bents. 3 hr. rec. for 3 hr. cr. In addition to above, complete design and drawing of wooden roof truss. 3 hr. lab. Total of 4 hr. cr. Mr. D'Errico

122. Structural Engineering. I. 2 or 3 hr. PR: M. 102. Like C.E. 121 omitting railway wheel loads and other special topics. 2 hr. rec. for 2 hr. cr. or with design as in C.E. 121. Total of 3 hr. cr. Mr. D'Errico

123. Bridge Design. I. 3 hr. PR: C.E. 121. Stresses due to dead, live and lateral loads; design of stringers, floor beams, truss members and connections; drawing of completed design; analysis of weight and cost estimate. 9 hr. lab. Mr. Davis

124. Thesis. I, II. 2 or 4 hr. Special design, investigation or original research of some assigned topic relating to Civil Engineering. Staff

180, 181. Civil Problems. I and II respectively. Credit arranged. For sophomores and juniors with partial credit in required courses. Staff

200. Water-power Engineering. II. 2 hr. PR: C.E. 115. Flow and power of streams; power loads; storage required; design of a high masonry dam; hydraulics of turbines; turbine characteristics; appurtenances. Mr. Speiden

201. Hydraulic Measurements. I, II, S. 1 hr. PR or Conc: C.E. 115. The laboratory part of C.E. 115 or special experiments in the Hydraulic Laboratory. 3 hr. lab. Staff

202. Water Purification. I. 3 or 4 hr. PR or Conc: C.E. 116. Slow and rapid filteration; coagulation; disinfection; softening; corrosion control; specifications for filter sand and water works chemicals; physical and chemical characteristics of water; bacterial quality. 1 hr. rec. and 6 hr. lab. for 3 hr. cr. In addition to the above the design of elements of a rapid sand filter plant 3 hr. lab. Total of 4 hr. cr. Mr. Speiden

203. Sewage Disposal. II. 3 hr. PR: C.E. 115. Characteristics of sewage; dilution; irrigation; screening; sedimentation; oxidation; chlorination; digestion and disposal of sludge; activated sludge process; industrial wastes. 2 hr. rec., 3 hr. lab. Mr. Speiden

204. Advanced Structures. II. 3 hr. PR. C.E. 121. Deflections of trusses and girders by auxiliary load of unity, Castigliano's Theorem, Williot diagram, elastic curve and moment area methods; cantilever bridges; two and three hinged arches; continuous spans; swing bridges; suspension bridges. 3 hr. rec. Mr. Davis

206. Reinforced Concrete. II. 3 hr. PR: C.E. 121. Rectangular beams; single and double reinforcement; T-Beams; columns; combined bending and thrust; footings; concrete building bay; arch for highway bridge. 1 hr. rec., 6 hr. lab. Staff

207. Foundations. I. 3 hr. PR: C.E. 121. Soil mechanics; piles; cofferdams; cassions; piers; abutments; spread footings; underpinning; retaining walls. 2 hr. rec. 3 hr. lab. Mr. Davis

208. Transportation Economics. I. 2 hr. PR or Conc: C.E. 102. The economic aspects of transportation based on engineering principles; highways, railways, waterways, airways and pipe lines—their competitive natures, costs, government aid and government regulations. 2 hr. rec. Mr. Downs

209. Highway Laboratory. II. 2 hr. PR: M. 103. In the State Road Commission's Material Testing Laboratory, tar, asphalt, premixed paving material, cement, aggregates, paint, steel and other highway materials are tested for compliance with specifications. 6 hr. lab. Staff

210. Photogrammetry. I. 2 hr. PR: C.E. 4. Geometry and interpretation of the aerial photograph; flight planning; radial-line control; principles of stereoscopy; plotting instruments; mosaics. 1 hr. rec., 3 hr. lab. Mr. Baker

281. Civil Problems. II. Credit arranged. For junior, senior and graduate students. Staff

Graduate Division

351. Advanced Water-Supply Engineering. I, II. Credit arranged. PR: C.E. 116. A detailed study of specific problems concerning the collection, treatment or distribution of water. Mr. Speiden

352. Sewerage and Sewage Disposal. I, II. Credit arranged. PR: C.E. 118. Special problems involved in the structural or hydraulic design of sewers or in the treatment and disposal of sewage or industrial wastes. Mr. Speiden

353. Advanced Design Problems. I, II. Credit arranged. A design or investigation of any assigned problem related to civil engineering. Mr. Davis or Mr. Speiden

354. Statically Indeterminate Structures. I, II. Credit arranged. Design or investigation of structures statically indeterminate in one or more aspects. Moment distribution. Mr. Davis

355. Soil Mechanics. I, II. Credit arranged. Classification of soils; permeability; seepage; settlement; shearing strength; stability of slopes; lateral pressures. Special theoretical or laboratory investigations. Staff

397-398. Research. I and II respectively. Credit arranged. Original report, or investigation on some topic in the Civil Engineering field. Mr. Davis and Mr. Speiden

ELECTRICAL ENGINEERING

Professors Jones and Seibert; Associate Professors Peterson and Reed; Assistant Professors Dubbe and Keener; Instructors Grumbach, Monser, Smith, and Sperry.

Undergraduate Division

E.E.

*10. Introductory Electrical Engineering. I, II, S. 3 hr. PR: Math. 3 and 4. An elementary course to introduce the fundamental laws and principles of electrical circuits. Introduction to electrical laboratory equipment and procedure. 2 hr rec., 3 hr. lab. Mr. Sperry

*100. Electrical Fundamentals. I, II, S. 4 hr. PR: E.E. 10, Math. 108 (or conc.) Physics 106 (or conc.) Underlying principles of electric, magnetic and dielectric circuits including applications of Ohm's and Kirckoff's laws. Induced and generated electromotive force. 3 hr. rec., 3 hr. lab. Mr. Smith

*102, 103. Elements of Electrical Engineering. I, II. 4 hr. each semester. PR: Physics 106. Courses for non-electrical students. The operating characteristics and applications of electrical machinery used in industry. Transmission and distribution of electrical energy. Safety precautions. Elementary electronics. 3 hr. rec., 3 hr. lab. Mr. Peterson

*104. Illumination. I. II. 2 hr. PR: Physics 106 and Math. 108. A study of the basic principles and practices of illumination engineering, including a lighting survey and the design of a typical lighting installation. 2 hr. rec. Mr. Peterson

*110. Elements of Electrical Engineering. I, II. 5 hr. PR: Physics 106. For students in chemical, civil and petroleum and natural gas option in Mining Engineering. The operating characteristics and applications of electrical machinery and equipment. 3 hr. rec., 6 hr. lab. Mr. Grumbach

130. Direct-current Machinery. I, II. 3 hr. PR: E.E. 100. A study of the construction and the operating characteristics of direct current generators and motors. Special applications and special types of generators. Starting and speed control of motors. 3 hr. rec. Mr. Dubbe and Mr. Sperry

131. Direct-current Machinery Laboratory. I, II. 2 hr. To accompany E.E. 130. A laboratory and problem course dealing with direct current machines. 6 hr. lab. Mr. Dubbe and Mr. Sperry

*135. Alternating-current Theory and Measurement. I, II, S. 3 hr. PR: E.E. 100 and Math. 108. The study of sinusoidal wave forms, introduction and use of vector algebra as applied to A-C circuit analysis, analysis of linear bilateral networks, coupled circuit behavior, and polyphase systems. 3 hr. rec. Mr. Monser

*136. Alternating-current Theory and Measurement Laboratory. I, II, S. 2 hr. To accompany E.E. 135. A laboratory and problem course dealing with alternating current circuits. 6 hr. lab. Mr. Monser

174. Industrial Applications of Electric Control. 3 hr. PR: E.E. 103. Fundamentals of electrical control devices used in industry, with emphasis on applications. 3 hr. rec. Mr. Jones

180, 181. Electrical Problems. I and II respectively. Credit to be arranged. For sophomores and juniors. Staff

232, 233. Alternating-current Machinery. I, II. 4 hr. each semester. PR: E.E. 130 and 135. A study of the theory and operation of transformers, induction motors, alternators, synchronous motors, rotary converters and single-phase motors. 3 hr. rec., 3 hr. lab. Mr. Reed and Mr. Monser

234. Alternating-current Machinery Laboratory. I, II. 1 hr. PR: E.E. 233 (or conc.) A laboratory course in the testing and operation of alternating-current machinery. 3 hr. lab. Mr. Reed

243 Electrical Calculations. 1, II. 2 hr. PR: E.E. 102 or 130 and E.E. 232 (or conc.) Assigned problems pertaining to the design of electrical equipment. Emphasis placed on the electrical characteristics of the equipment. 6 hr. lab. Mr. Jones and Mr. Peterson

245. Electric Control. I, II. 2 hr. PR: E.E. 233. A study of control equipment and its application. Stress is placed on the ability to understand control circuits. 6 hr. lab. Mr. Jones and Mr. Grumbach

*250. Electronics. I, II. 4 hr. PR: E.E. 135. The study of electron ballistics, tube characteristics, rectifiers and voltage amplifiers. 3 hr. rec., 3 hr. lab.
Mr. Smith

*252. Electronics. I, II. 4 hr. PR: E.E. 250. The study of power amplifiers, tuned amplifiers, oscillators and modulators. 3 hr. rec., 3 hr. lab.
Mr. Smith

260. Network Analysis. I, II. 3 hr. PR: E.E. 135 and Math 253. An introduction to network analysis as applied to the following subjects: Foster's reactance theorem, infinite lines, reflections on transmission lines, coupled circuits and filters. 3 hr. rec. Mr. Keener

261. Transmission Lines. I, II. 3 hr. PR: E.E. 260. Transmission lines and terminal equipment at power and radio frequencies. 3 hr. rec. Mr. Dubbe and Mr. Keener

*262. Communication Laboratory. I, II. 1 hr. PR: E.E. 252 (or conc.) Measurements at audio and radio frequencies. 3 hr. lab. Mr. Keener

*264. Radio Engineering. I, II. 3 hr. PR: E.E. 252 and 262. Study and analysis of radio transmission, receiving and sound systems, frequency modulation, television, radiation and propagation. 3 hr. rec. Mr. Seibert

*265. Radio Laboratory. I, II. 3 hr. To accompany E.E. 264. 6 hr. lab.
Mr. Keener and Mr. Seibert

270. The Electrical Industry as a Public Utility. I, II. 3 hr. For seniors and graduates only. Economic principles involved in the selection and design of electrical equipment and in the utilization of electrical energy. 3 hr. rec.
Mr. Grumbach

281. Electrical Problems. I. Credit arranged. For junior, senior, and graduate students. Staff

282. Symmetrical Components. II. 3 hr. PR: E.E. 233. An introduction to the methods of symmetrical phase components as applied in calculating currents in systems under various types of unbalanced conditions. 3 hr. rec.
Mr. Dubbe

284. Transients. I, II. 3 hr. PR: E.E. 135 and Math. 253. A study of the transient behavior of various electrical circuits and networks. Heaviside's Operational Calculus, Expansion Theorem, an introduction of the Laplace Transform methods. 3 hr. rec. Mr. Dubbe

285. Electric-power Transmission and Distribution. I, II. 3 hr. PR: E.E. 261. A study of circle diagrams applied to the various characteristics of power transmission system, phase modifier applications and an introduction to power system stability. 3 hr. rec. Mr. Dubbe

286. Industrial Control. I, II. 3 hr. PR: E.E. 245 and Math 253. Electrical-control devices in industry, their application and use in protection and control of electrical and mechanical equipment. 3 hr. rec.
Mr. Jones and Mr. Keener

287. Industrial Electronics. I, II. 3 hr. PR: E.E. 250. A survey of the theory and applications of electronics in industry. 3 hr. rec. Mr. Keener

288. Antennas. II. 3 hr. PR: E.E. 264 (or conc.) Analysis and design of antenna systems. 3 hr. rec. Mr. Seibert

299. Ultra-high-frequency Technology. II. 3 hr. E.E. 264 (or conc.) Study of special problems encountered at high and ultra-high-frequencies with special emphasis on pulse techniques as used in radar, television and pulse-modulation. 3 hr. rec. Mr. Seibert

Graduate Division

300. Seminar. I, II, S. 1-3 hr. PR: Consent. Discussion of research in electrical engineering and special problems. Staff

350. Vacuum-tube Circuits. I, II. 3 hr. PR: E.E. 252. An advance study for the analysis and design of vacuum-tube circuits. Mr. Seibert

379. Seminar in Coal Research. I, II. 1 or 2 hr. PR: Consent. Credit 1 hr. per semester, maximum credit 2 hr. (In cooperation with other departments and the U.S. Bureau of Mines.) Staff

386. Servomechanisms. II. 3 hr. PR: M. 104 and E.E. 245. Analysis and synthesis of servo control circuits. Mr. Jones and Mr. Keener

397, 398. Research. I, II. Credit arranged. Advanced research or special investigations on some topic related to electrical engineering. Mr. Jones or Mr. Seibert

GENERAL

Professor C. H. Cather; Associate Professors Baker and Worrell; Assistant Professor Weaver.

G.

1. Engineering Lectures. I. (no credit). Required of all freshmen in engineering. A series of lectures designed to acquaint the engineering student at the beginning of his course with the profession he has chosen. 1 lecture. Mr. Cather

101. Engineering Society. I, II, S. ½ hr. Primarily for juniors. Required of all candidates for degrees in engineering. Membership attendance, and active participation in Engineering Society. 1 hr. rec. Mr. Baker and Committee

102. Engineering Society. I, II, S. ½ hr. Continuation of G. 101. For juniors. 1 hr. rec. Mr. Baker and Committee

103. Engineering Society. I, II, S. ½ hr. Continuation of G. 102. For seniors. 1 hr. rec. Mr. Baker and Committee

104. Engineering Society. I, II, S. ½ hr. Continuation of G. 103. For seniors. 1 hr. rec. Mr. Baker and Committee

190. Business Law. I, II. 3 hr. PR: Econ. 30 or 1 and 2 and M. 102. Contracts, agency, business organizations, sales, negotiable instruments, real and personal property, professional registration and patents. Mr. Worrell and Mr. Weaver

MECHANICAL ENGINEERING

Professors H. M. Cather, J. B. T. Downs and Shaffer; Associate Professor Grow; Assistant Professor Peer; Instructors Delaney, L. E. Jones, Martin, Pfister and Pyles.

Undergraduate Division

M.E.

*7. Welding and Heat Treatment. I, II, S. 1 hr. Practice in cutting and welding steel and cast iron with oxy-acetylene and electric arc welding equipment. Demonstrations of different methods of heat treatment. One 3 hr. lab. Mr. Jones and Mr. Martin

*11. Machine Work. I, II, S. 2 hr. A study of equipment, purpose and character of operations, methods of holding work, turning, boring, drilling, grinding and shaping. Use of precision measuring instruments. Two 3 hr. lab. Mr. Jones, Mr. Martin, and Mr. Delaney

*12. Machine Work. I, II, S. 1 hr. PR: M.E. 11 Continuation of M.E. 11. Use of milling machine, jigs, gages, heat treating, etc. One 3 hr. lab.
Mr. Jones, Mr. Martin and Mr. Delaney

*15. Welding, Forming and Heat Treatment. I, II, S. 2 hr. Molding and casting of ferrous and nonferrous metals. Oxy-acetylene welding, arc welding, resistance welding of plates, pipe, tubing, etc.; tempering and heat treating methods. Lectures, demonstrations and shop practice. Two 3 hr. lab.
Mr. Jones and Mr. Martin

16. Manufacturing Processes. I, II. 2 hr. The economic use of machine tools, planning assembly line manufacture, gauging, and inspection during the various processes of manufacture, 2 hr. rec. Mr. Jones

*20. Mechanical Drawing. I, II, S. 3 hr. Technical sketching, lettering, use and care of instruments, orthographic and auxiliary projection drawing with dimensions and sections, isometric projection, tracing and reproduction processes. Three 3 hr. lab. Staff

25. Elements of Machine Design. I, II. 2 hr. PR: M.E. 11 and M.E. 20. Empirical design, standard commercial parts; i.e., bearings shafting, coupling, pulleys, keys, screw fittings, limits, tolerances and allowances, nomenclature. Two 3 hr. lab. Staff

*26. Descriptive Geometry. I, II. 3 hr. PR: M.E. 20 and solid geometry. The theory of projection drawing and its application in solving practical problems by projection and revolution of points, lines, planes and solids, auxiliary projections, intersections and development. 1 hr. rec. Two 3 hr. lab. Staff

27. Mechanism. I, II. 2 hr. PR: M.E. 20 and 26. Graphical solutions of relative motions and velocities, instant centers, acceleration, displacement curves, cam layout, gear tooth outlines, gear trains. Two 3 hr. lab. Staff

*29. Mechanism. I, II. 4 hr. PR: M.E. 20 and 26. Graphical and analytical solution of position, relative motion and velocities, instant centers, acceleration displacement diagrams, cams, gears, and gear trains and belt drives. 2 hr. rec., two 3 hr. lab. Staff

30. Industrial Organization. I, II, S. 2 hr. A review of the principles of organization and administration that are applicable to various engineering and industrial enterprises. 2 hr. rec. Mr. Weaver

*105. Machine Construction. I, II. 2 hr. PR: M.E. 12. Design and construction of a small machine which involves selection of materials, type and sequence of operations, design and construction of necessary dies, jigs, fixtures and special tools, tolerances, gauging, inspection and assembly. Two 3 hr. lab.
Mr. Jones and Mr. Martin

*106. Shop Methods. I, II. 2-3 hr. Continuation of M.E. 105 with emphasis on quantity production involving use of semiautomatic and automatic machines. Two or three 3 hr. lab. Mr. Jones

*107. Machine Construction. Semester and credit to be arranged. Advanced work for special students. Continuation of M.E. 105 and 106. Mr. Jones

113. Machine Design. I, II. 4 hr. PR: M. 102 and M.E. 29. Lectures on the theory and design considering stresses, strains, type of load, fatigue, factor of safety, friction and lubrication, columns, bearings, gears, screw threads. The complete design of a machine involving the necessary calculations. detail and assembly drawings. 2 hr. rec. Two 3 hr. computation periods. Mr. Downs

122. Mechanical Laboratory. I, II. 2 hr. PR: or conc: M.E. 221. Experiments involving calibration of measuring instruments, calorific value of fuels, physical properties of lubricating oil and elementary tests of engines and boiler. One 3 hr. lab. Mr. Peer and Mr. Pfister

123. Engineering Laboratory. I, II. 2 hr. PR: M.E. 122. Measurement of flow of gases and vapors, economy and efficiency test of complete machines such as air compressors, automotive engines and diesel engines. One 3 hr. lab.
Mr. Peer and Mr. Pfister

124. Thesis. I, II. 2-4 hr. Investigation or original research on some special topic relating to mechanical engineering. Staff

140. Motion and Time Study. I, II, S. 3 hr. PR: Junior standing. Principles and techniques, job analysis, standardization and formula construction, stop watch and micro-motion analysis of industrial operation, development of production and incentive standards. Two 1 hr. rec., one 3 hr. lab. Mr. Shafer

142. Production Control. I, II, S. 3 hr. PR: M.E. 140. Planning, scheduling, routing and dispatching in manufacturing operations and production control systems. 3 hr. rec. Mr. Shafer

144. Engineering Statistics. I, II, S. 3 hr. PR: Junior standing. The use of graphical analysis; measures of central tendency and dispersion; normal, binomial and Poisson distributions in engineering application; linear regression and correlation and tests of significance. 3 hr. rec. Mr. Shafer

161. Precision Measuring and Gauging. I, II. 2 hr. PR: M.E. 105 or permission. Instruction in care and use of precision measuring and gauging equipment. Projects to compare accuracy and speed of the various types of equipment. Two 3 hr. lab. (Not offered 1951 to 1953.) Mr. Jones

180, 181. Mechanical Problems. I, II. 1-3 hr. For sophomores and juniors. Staff

203. Advanced Machine Design. I, II, S. 4 hr. Continuation of M.E. 113, relating to axles, shafts, fly wheels, various types of gearing, rope drives, chain drives, clutches and machine frames. Laboratory practice in the complete design of a machine involving calculations, detail and assembly drawings. 2 hr. rec. and two 3 hr. computation periods. Mr. Downs

210. Tool Engineering. I, II. 3 hr. PR: M.E. 113. Design, construction, application and economic aspects of jigs, fixtures and special tools used in manufacturing on a production basis. 3 hr. rec. Mr. Shafer

211. Industrial Engineering Problems. I, II. 3 hr. PR: M.E. 140. For seniors. Special problems relating to industrial engineering. Mr. Shafer

220. Heat and Power Engineering. I, II, S. 3 hr. PR: Physics 105 and 107 and Math. 108 (or reg. in Math. 108). Elementary engineering thermodynamics, including gases and vapors, internal combustion engine cycles, vapor cycles, air compression and refrigeration. 3 hr. rec. Staff

*221. Thermodynamics of Engineering. I, II, S. 3 hr. PR: Physics 105 and 107 and Math. 108 (or reg. in Math. 108). First and second laws of thermodynamics; laws of permanent gases; vapors and gas-vapor mixtures; use of diagrams and tables giving the properties of steam and other vapors, flow of fluids, throttling. 3 hr. rec. Staff

*222. Heat Engines. I, II, S. 3 hr. Continuation of M.E. 221. Thermodynamics as applied to heat power engineering; boilers, steam engines, steam turbines, internal combustion engines, air compressors and refrigeration. 3 hr. rec.
Mr. Peer and Mr. Pfister

*223. Steam Power Plants. I, II, S. 3 hr. PR: M.E. 221. Principles of design and operation of modern steam power plants for central stations and for process industries. Each student submits an individual design problem. 3 hr. rec. Mr. Cather

224. Steam Turbines. I, II, S. 3 hr. PR: M.E. 222. The theory of fluid dynamics

and the thermodynamics of the modern turbines; materials, construction details and design of important elements; influences on economy of variations in cycles and operative ranges. 3 hr. rec. Mr. Cather

227. Steam Power Plant Design. I, II, S. 2 hr. Continuation of M.E. 223. Preparation of plan and elevation for power plant designed in M.E. 223. Emphasis on equipment location, space utilization, fuel handling, duct work, steam and water lines. Two 3 hr. lab. Mr. Cather

228. Engineering Laboratory. I, II, S. 2 hr. PR: M.E. 123. Economy and efficiency test of steam engines, steam turbines, gas engine; comprehensive test and heat balance of power plant in the laboratory. 3 hr. lab. Mr. Peer

229. Internal Combustion Engines. I, II, S. 3 hr. PR: M.E. 222. The thermodynamics of the internal combustion engines; Otto cycle; Diesel cycle; two and four-cycle engines, fuels, carburetion and fuel injection, combustion, engine performance, supercharging. 3 hr. rec. Mr. Cather and Mr. Peer

250. Heating, Ventilating, and Air Conditioning. I, II, S. 3 hr. PR: M.E. 222. Methods and systems of heating, ventilating, and air conditioning of various types of buildings, types of controls, and their applications. 3 hr. rec. Mr. Cather

270. Industrial Lubrication. I, II. 3 hr. PR: M. 102 and M. 104. Characteristics of crudes, refining methods, testing specifications, selecting, applications, and purification of oils and greases for industrial use. 3 hr. rec. Mr. Cather

281. Mechanical Problems. I, II. 1-3 hr. For juniors, seniors, and graduates. Staff

286. Engineering Economy. I, II, S. 2 hr. PR: M. 102. Comparison of the relative economy of engineering alternatives; compound interest in relation to calculation of annual costs, present worth and prospective rates of return on investment; increment costs, sunk costs and the economy of equipment replacement. 2 hr. rec. Mr. Shafer

288. Job Evaluation and Wage Incentives. I, II, S. 3 hr. PR: 140 or consent of instructor. Principles used in evaluating jobs, rates of pay; characteristics and objectives of wage incentive plans; incentive formulas and curves. 3 hr. rec. Mr. Shafer

290. Industrial Statistics. I, II, S. 3 hr. PR: M.E. 144. Economic objectives of quality control in manufacturing through sampling methods; the Shewhart control chart for variable, attributes and defects per unit; statistical approach to acceptance procedures. 3 hr. rec. Mr. Shafer

292. Plant Layout and Design. I, II, S. 2 hr. PR: M.E. 142. Problems in industrial plant design, equipment location, space utilization, lay out for operation and control; flow sheets, materials handling; allied topics in power utilization, light, heat and ventilation. Two 3 hr. lab. Mr. Shafer

294. Standard Manufacturing Costs. I, II, S. 3 hr. PR: Bus. 6 or 110. Development of standards for labor, material and overhead expenses; uses of standards for control; analyses of variances between standard and actual costs; job order costing and estimate costing procedures. 3 hr. rec. Mr. Shafer

Graduate Division

303. Advanced Machine Design. I, II, S. 3 hr. PR: M.E. 203. Stresses in indeterminate machine parts, experimental stress analysis. Design for high temperatures, pressures, and high speeds. Bearings, lubrication, balancing, and critical speeds. Effects and elimination of vibration in machines, impact and shock loading, machine mountings and shock absorbers. 3 hr. rec. Mr. Downs

351. Advanced Internal Combustion Engines. I, II, S. 3 hr. PR: M.E. 229. Combustion in spark ignition engine and in compression ignition engine; detonation; fuel-air ratios; heat losses; lubrication; efficiencies; two-stroke engines; four-stroke engines, performance, exhaust turbines, gas turbines. 3 hr. rec. Mr. Cather

354. Advanced Refrigeration. I, II, S. 3 hr. PR: M.E. 250. Thermodynamics of vapor cycles, refrigerants, fluid flow, heat transfer, psychrometrics, types of refrigeration and equipment required, application of refrigeration in industry, food preservation. 3 hr. rec. Mr. Cather

370. Theory of Industrial Engineering and Organization. I, II, S. 3 hr. PR: Graduate standing and consent of instructor. History and development of scientific management in industry starting with early works of Taylor, Gilbreth and Gantt, to the present time. 3 hr. rec. Mr. Shafer

371. Methods Analysis. I, II. 2 hr. PR: M.E. 140. An advanced study of the technique of methods analysis as an effective means of methods improvement and cost reductions. 2 hr. rec. Mr. Shafer

372. Advanced Time Study. I, II, S. 3 hr. PR: M.E. 140. Review of the various investigations which have been made, with special consideration given to the development of these studies into new fields. 3 hr. rec. Mr. Shafer

373. Budget Control. I, II. 2 hr. PR: M.E. 294. Principles involved in the preparation of budgets by functional divisions and the application of divisional budgets as control media. 2 hr. rec. Mr. Shafer

374. Advanced Engineering Economy. I, II. 3 hr. PR: M.E. 286. Continuation of M.E. 286, with special emphasis on depreciation, engineering and economic aspects of selection and replacement of equipment; relationship of technical economy to income taxation and load factor and capacity to economy. 3 hr. rec. Mr. Shafer

379. Seminar in Coal Research. I, II. 1 or 2 hr. PR: Consent. Credit 1 hr. per semester, maximum credit 2 hr. (In cooperation with other departments and the U. S. Bureau of Mines.)

397, 398. Research. I, II. Credit arranged. Investigation or original research on some special topic relating to mechanical engineering. Mr. Cather and Staff

MECHANICS

Professor C. H. Cather; Associate Professor Worrell; Assistant Professor Weaver; Instructors Hoover, Lambert and Plants.

Undergraduate Division

*101. Statics. I, II, S. 3 hr. PR: Math. 108 (or reg. in Math. 108) and Physics 105 and 107. Fundamental definitions and the concept of static equilibrium; systems of forces and couples; application to solution of trusses and frames; centroids and moment of inertia. 3 hr. rec. Staff

*102. Mechanics of Materials. I, II, S. 4 hr. PR: M. 101 and Math. 108. Stress and strain; riveted and welded joints; shafts and beams; deflection; statically indeterminate beams; combined stresses; column theory and design; non-homogenous beams; energy loads; repeated stress. 4 hr. rec. Staff

*103. Material-Testing Laboratory. I, II, S. 1 hr. PR or conc: M. 102. Laboratory tests of the tensile, compressive, transverse, torsional strength and stiffness of engineering materials. One 3 hr. lab. Staff

*104. Kinetics. I, II, S. 3 hr. Continuation of M. 101. PR: M. 101 and Math. 108. Kinematics of a particle; moment of inertia of masses; translation, rotation and plane motion of rigid bodies; principle of work and energy, impulse and momentum; application to engineering problems. 3 hr. rec. Staff

200. Advanced Mechanics of Materials. I, II. 2-4 hr. PR: M. 102. Combined stress and theories of failure; thick wall cylinders; flat plates; unsymmetrical bending; curved flexural members; localized stress; strain-energy methods in the analysis of statically indeterminate members. Mr. Cather

201. Advanced Kinetics. I, II. 3 hr. PR: M. 101 and 104. Dynamic balancing; Corioli's Law; gyroscopes; governors; simple servo-mechanism; mechanical vibration. Mr. Worrell

202. Advanced Materials Laboratory. I, II. 2-4 hr. PR: M. 102, 103. Continuation of M. 103 with emphasis on a selected problem or problems. Mr. Cather or Mr. Worrell

COURSES IN THE SCHOOL OF MINES

Professor Spindler; Assistant Professors Ahrenholz, Bondurant, and Laird.

Undergraduate Division

E.M

102. Mine Surveying. SI. 5 hr. (laboratory and field work). PR: E.M. 103. Continuation of and supplementing E.M. 103; intensive field practice in underground and surface surveying. Should be taken during summer term immediately following semester in which E.M. 103 is taken. Mr. Laird and Mr. Wiebe

103. Mine Surveying. I. II. 3 hr. PR: C.E. 1. 2 hr. rec., 1 hr. lab. Continuation of C.E. 1 with introduction to underground surveying. Mr. Laird

*106. Mineralogy. I, II. 1-2 hr. (laboratory). PR: Chem. 2. Includes 1 hr. of mineral identification and 1 hr. of blowpipe analysis. Mr. Laird

107. Mining Methods. I. 4 hr. PR: Phys. 106 and Geol. 1. 3 hr. rec., 1 hr. lab. Inspection and evaluation of mining properties, methods and systems of mining, roof control, and operating characteristics of mining machinery. Inspection trips with written reports required. Mr. Wiebe

111. Mining. I. 2 hr. PR: Chem. 15 and Phys. 106. Explosives, timbering, drilling, and shaft sinking. Mr. Ahrenholz

*114. Mine Management. II. 2 hr. PR: E.M. 212. Economic, governmental, social, and labor aspects of mining as related to the management of a mining enterprise. Mr. Spindler

*115. Mine Design. I. 2 hr. (laboratory) PR: 212 and registration in C.E. 122. Design of an underground mining development with full report. Mr. Spindler

*116. Mine Design. I. 3 hr. (laboratory) PR: E.M. 115. Continuation of E.M. 115 including design of preparation plant and loading facilities with full report covering plan, equipment, operation, and costs. Mr. Spindler

119. Mine Equipment and Machinery. II. 2 hr. PR: E.E. 103 and E.M. 212. Selection, installation, operation, and maintenance of mining equipment. Mr. Wiebe

*120. Thesis. I, II. 2 to 4 hr. An individual problem on some phase of mining. None but exceptional students having high scholastic standing will be permitted to elect this course. Staff

121. Coal Preparation. II. 4 hr. (2 hr. rec., 2 hr. lab.) PR: E.M. 212, E.M. 202, and

M. 104. Principles of preparation and beneficiation of coal for marketing, with laboratory devoted to sampling, float and sink separation, and use of various types of coal-cleaning equipment. Mr. Ahrenholz

*201. Oil-field Development. I. 2 hr. PR: Geol. 3. Introduction to principles, equipment, and methods applied to development of an oil property. Mr. Laird

*202. Coal Laboratory. I. 1 hr. (laboratory) PR: Chem. 10. Sampling, preparation of laboratory samples, and analysis of coal. Mr. Ahrenholz

204. Oil and Gas Production. II. 4 hr. PR: E.M. 201. Continuation of E.M. 201 with a core-analysis laboratory. 3 hr. rec., 1 hr. lab. Mr. Laird

205. Gas-measurement Engineering. II. 2 hr. PR: E.M. 201 and C.E. 115. (1 hr. rec., 1 hr. lab.) Methods of commercial gas measurement and pressure regulation with a laboratory devoted to use of various types of equipment. Mr. Laird

206. Elements of Geophysical Prospecting. I. 2 or 3 hr. PR: Geol. 205, Math. 107, Phys. 106. (2 hr. rec., 1 hr. lab.) Methods, instruments, and calculations for geophysical prospecting with field practice in use of instruments. Mr. Laird

207. Introductory Seismology. I, II. 1 hr. PR: Phys. 106, Geol. 205. Earthquakes and their causes and area distribution; theory of elastic waves; the principles of seismograph construction, adjustment, and operation; interpretation and calculation of seismograms with exercises provided by records of the University seismograph station. Mr. Laird

208. Geological Surveying. II. 1 hr. PR: E.M. 103 and Geol. 161. 1 hr. field and lab. Topographic mapping with the plane table. Mr. Laird and Mr. Wiebe

212. Coal Mining. II. 4 hr. PR: E.M. 111. Methods, equipment, and engineering principles applied to mine haulage, hoisting, and drainage. Mr. Wiebe

213. Mine Ventilation. I. 3 hr. PR: E.M. 107 and E.M. 212. (2 hr. rec., 1 hr. lab.). Purposes, principles, methods, and equipment pertaining to ventilation of mines. Mr. Spindler

214. Coal Production, Cost Control and Economics. I. 3 hr. PR: Econ. 30, Bus, 110, and E.M. 107, or consent of instructor. Coal property valuation, capitalized costs in mining and recovery of investment, analysis of mining costs, cost control and time analysis of mining operations, purchasing and inventories. Mr. Wiebe

215. Industrial Safety Engineering. I, II. 2 hr. PR: Senior standing. Analysis of problems of industrial safety and accident prevention, laws pertaining to industrial safety and health, compensation plans and laws, and industrial property protection. Mr. Ahrenholz

216. Petroleum Engineering Design. I. 2 hr. PR: E.M. 204 (laboratory). Structural and machine analysis and design as related to the production and transportation of oil and natural gas. Mr. Laird

224, 225 Mining Engineering Problems. I, II. 1 to 3 hr. PR: Senior or graduate standing. Investigation and detailed report on a special problem in mining engineering related to coal mining, mineral mining, or geological, petroleum, and natural gas engineering. Supervision and guidance by a member of the graduate faculty. Staff

Graduate Division

301, 302. Advanced Mine Design. I, II. Credit arranged. Advanced detail design and layout of coal-mine plant, particularly incorporating new ideas of machines and mining methods. Staff

351. Coal Mining. SI. 3 hr. PR: Chemistry, 10 hr., Physics, 10 hr., and accompanied or preceded by general geology. Especially for students who are planning to teach mining subjects in high school. Not open to students taking E.M. 102, 111, and 212. Hours arranged. Staff

395, 396. Graduate Seminar in Coal Mine Operation and Administration. I, II. 3 hr. PR: B.S. Degree and consent of Committee. Group discussion and analysis of problems related to the production, preparation, marketing, and utilization of coal with special assignments and emphasis in accordance with personal background and field of interest of the individual students.

397, 398. Research. I, II. Credit arranged. Individual problem in some phase of mining. Carefully prepared report required. Staff

The Graduate School

GENERAL INFORMATION

By the order of the Board of Governors of West Virginia University a University Graduate School is established, whose roots are implanted in all University undergraduate work, irrespective of departments or schools. The Graduate School is empowered (1) to direct research and investigation with particular reference to problems of the state and (2) to train and recommend to the Board of Governors candidates for the degrees of Master of Science, Master of Science (Home Economics Education), Master of Science in the various Engineering branches, Master of Arts, Master of Music, Master of Social Work, Doctor of Philosophy and Doctor of Education.

All regulations governing the Graduate School such as the determination of curricula, projects, majors, minors, standards, thesis requirements, and similar matters shall be formulated by the Executive Committee and the Dean of the Graduate School and presented to the Graduate Faculty for its consideration and action.

THE STUDENT BODY

Seniors in the colleges of West Virginia University who are within 10 semester hours of graduation may, with the approval of the Dean of the Graduate School, enroll for graduate courses for which they may receive graduate credit after obtaining their bachelors' degrees. Such graduate courses must not have been offered for undergraduate credit, and in every case permission must have been requested before or at the time of enrolling for the course or courses. Normally, the maximum amount of credit available to a senior by petition in this manner before he completes all requirements for the baccalaureate degree and gains admission to the Graduate School shall be 15 semester hours.

THE ADVISER

The adviser will arrange a specific course of study to be approved by the Dean and, in the case of candidates for advanced degrees, will preside at the candidate's qualifying and final examination.

THE FACULTY

The Graduate Faculty is composed of those faculty members who are actively assisting with any phase of the graduate program such as teaching graduate courses, directing graduate research, supervising thesis and problem work, advising graduate students and directing their graduate studies. Membership is by appointment by the Dean of the Graduate School following certification by the Executive Committee. Deans and Directors of the various colleges and schools and the President and Vice-president of the University are members ex officio.

GRADUATE DEGREES

Graduate degrees offered by the departments in the University which have been approved for graduate work are as follows:

Master of Arts (A.M.)
Master of Music (Mus.M.)
Master of Science (M.S.)

Master of Science in Chemical Engineering (M.S.Ch.E.)
Master of Science in Electrical Engineering (M.S.E.E.)
Master of Science in Civil Engineering (M.S.C.E.)
Master of Science in Mechanical Engineering (M.S.M.E.)
Master of Science in Engineering of Mines (M.S.E.M.)
Master of Science in Home Economics Education (M.S.H.E.E.)
Master of Science (Biochemistry)
Master of Social Work
Doctor of Philosophy (Ph.D.)
Doctor of Education (Ed.D.)

PROFESSIONAL DEGREES

The following professional degrees are conferred upon graduates of the College of Engineering and the School of Mines of West Virginia University on the basis of practical experience and study in absentia, the presentation of a thesis, and an oral final examination.

Engineer of Mines (E.M.) Chemical Engineer (Ch.E.)
Mechanical Engineer (M.E.) Civil Engineer (C.E.)
Electrical Engineer (E.E.)

REQUIREMENTS FOR THE GRADUATE DEGREE

GENERAL REGULATIONS

1. CANDIDACY

Admission to candidacy for any graduate degree is conditioned upon the fulfillment of the requirements for admission to the Graduate School, and also the particular requirements of undergraduate and graduate preparation for the field of study in which the student wishes to specialize. Unconditional admission to candidacy for an advanced degree involves a suitable period of graduate work in residence in which the student demonstrates his ability to do work of graduate caliber. Detailed information concerning candidacy for the Master's Degree and the Doctor's Degree may be found on the pages immediately following.

2. SCHOLARSHIP

No credits are acceptable toward an advanced degree which are reported with a grade lower than "C."

Reasonable standards of oral and written English must be maintained.

3. CURRICULUM

Credit toward a graduate degree may be obtained only for courses listed in this Bulletin and numbered 200-399.

No more than 15 hours of graduate courses in any one semester nor more than 6 hours of graduate courses in any one term of the Summer Session may be carried by a student. Any exception to this rule must be approved in advance by the Dean of the Graduate School.

4. RESIDENCE AND EXTENSION

Residence credit for special field assignments and for work taken off the University campus shall be allowed only with prior approval of the Dean.

No more than 15 hours of extension work may be counted by any one student toward the Master's Degree.

For majors in Education, no more than 12 hours by extension may be counted toward the Master's Degree.

The maximum credit that students pursuing graduate work by extension may receive in any one field shall be 8 semester hours.

No more than 6 hours of graduate credit obtained in other approved institutions may be considered in meeting the requirements for the Master's Degree in West Virginia University.* Graduate credits so accepted toward the Master's Degree must meet the usual departmental requirements for a continuous and unified program of graduate study and will reduce correspondingly the number of hours of graduate work by extension offered in West Virginia University extension centers that may be offered in meeting the requirements for the Master's Degree.

The time during which credit may be acquired in extension offered by institutions outside the state shall be limited in any area as determined by the University Committee on Extension and properly publicized by the Director of Extension.

No credits earned by extension prior to the admission of the student to graduate work and acceptance for graduate study may be counted toward meeting the requirements for the Master's Degree. This rule shall not apply to seniors in West Virginia University within ten hours of graduation who petition for graduate credit for courses not used to meet undergraduate requirements.

Each graduate student in residence, whether taking course work or engaged in conducting research or in writing a thesis or report, must register at the beginning of each semester or term during which graduate work is being done. He must be registered during the session in which he is to appear for final examination. Under exceptional conditions and with the prior approval of the Dean a graduate student may be permitted to meet a portion of the requirements for the degree in absentia, provided the customary residence and other requirements are met.

5. LIMITATION OF CREDIT LOADS FOR PART-TIME GRADUATE STUDENTS

Part-time graduate students will be required to reduce their credit loads in proportion to the outside service rendered and the time available for graduate study. In general, persons in full-time service to the University or other employer will not be permitted to enroll for more than 4 hours of work in any one semester or to obtain credit for more than 8 hours in any one academic year. In corresponding manner the maximum credit load for a single summer term of six weeks shall be 2 hours and for a Summer Session of nine or twelve weeks it shall be 3 hours. Any exceptions to these limitations will be by permission of the Dean only and prior to registration for the work.

6. CREDIT BY EXAMINATION

The Graduate School will allow credit for educational experience in the Armed Forces in partial satisfaction of advanced degree requirements for courses of the 200-399 series established by the Committee on Admissions by evaluation and/or by examination. For the Master's Degree, veterans may receive a maximum of 6 hours of credit by examination for work taken in the Armed Forces, but credit so obtained will reduce correspondingly the amount permitted by transfer from another institution. Such credit, however, will not serve to reduce graduate-degree residence requirements.

7. THESES AND PROBLEM REPORTS

All theses and problems reports shall be presented in the form prescribed at least one month previous to the Commencement Day on which the degree is expected. If the thesis or problem report is accepted, typewritten and bound copies shall be submitted to the Office of the Graduate School at least one week before the degree is to be conferred; a minimum of five copies of the master's or doctor's thesis or problem report is required.

*This regulation applies to all masters' degrees based upon a total credit requirement of 30 to 36 semester hours. The degree of Master of Social Work is based upon a total credit requirement of 50 to 60 semester hours, 24 to 30 of which may be transferred under suitable conditions, but the last 30 of which must be earned and completed in West Virginia University.

8. FINAL EXAMINATIONS

The candidate shall not be eligible for the final examination until his thesis or problem report has been approved by the examining committee. Following approval of the candidate's thesis or problem report and satisfactory completion of the courses in residence and satisfaction of other graduate requirements, he shall be given a final examination by his advisory committee. Examining committees for theses and for final examinations for advanced degrees shall contain no fewer than three members for candidates for the Master's degree, and no fewer than five members for candidates for the Doctor's degree. In order to have his thesis accepted or to be considered as having satisfactorily passed his examination, the candidate shall have no more than one unfavorable vote in each case.

9. REQUEST FOR DEGREE

At the time of registration for the semester or session in which the candidate expects to receive a graduate degree, he shall submit a formal request to the Dean of the Graduate School for the conferring of such degree. The candidate must have completed all requirements for the degree which he wishes to receive, at least one week before Commencement Day.

10. COMMENCEMENT ATTENDANCE

Candidates for degrees to be conferred at the close of the second semester are expected to be present in person to receive their degrees.

THE DEGREES OF MASTER OF ARTS AND MASTER OF SCIENCE

Requirements for Candidacy

Satisfactory fulfillment of General Regulation No. 1 for graduate degrees (stated on page 282) will admit an applicant to candidacy.

Requirements for Completion

The completion within a period of seven years* immediately preceding the conferring of the degree, except with the permission of the Dean, of no less than 30 credit hours of graduate work approved by the adviser.

Residence: A minimum is required of two semesters, or one semester and three summer terms, or five summer terms of residence in full-time graduate study at West Virginia University. For students offering 15 credit hours in extension, a minimum period of residence at West Virginia University of one semester or three summer terms shall be required for the Master's Degree.

Program: In general when a thesis is offered, the program will consist of 24 hours or more of suitable course work and 1 to 6 hours of thesis or research.

Thesis or Problem Report: A thesis or problem report granting no more than 6 hours of credit may be required by the faculty of the college, school, or department in which the candidate's major interest lies.

Final Examination: An examination, oral or written or both at the option of the candidate's examining committee, shall be required, covering the candidate's thesis or problem report, studies in his major and minor fields, and his ability to apply facts and principles.

Special Requirements: The candidate must meet the special requirements of the department in which he pursues his major study.

*This ruling was discontinued temporarily during the war period. It was reinstated, effective June 1, 1948, as follows:

Beginning with the first summer term of 1948, the seven-year rule will again be put into effect with the provision that, in the cases of students who have already started their graduate programs, the adviser and the Dean of the Graduate School will determine whether work taken before the seven-year period

THE PROFESSIONAL CERTIFICATE OF SOCIAL WORK AND THE DEGREE OF MASTER OF SOCIAL WORK

Requirements for the Professional Certificate of Social Work

The Professional Certificate of Social Work is awarded to students who have completed 30 hours of graduate social work courses including 10 semester hours of field work, and who have met all other requirements of the Graduate School. Full-time students can complete the work in 10½ months. The normal schedule consists of one semester of classroom work; a block of full-time field work, one semester in length; and a second classroom period of six weeks.

Requirements for the Degree of Master of Social Work

The degree of Master of Social Work is conferred by the University upon those students satisfactorily completing the requirements as established by the Graduate School. These requirements are:

1. Broad pre-professional training including not fewer than 24 hours of undergraduate work in the social sciences.
2. Completion of graduate courses approved by the Department of Social Work totaling not fewer than 54 semester hours, of which the last 30 hours shall have been completed in West Virginia University. In most cases the total program will range from 54 to 60 hours in order that the student may obtain 6 to 12 hours of elective work in the social sciences.
3. Completion of 20 semester hours (two full semesters) of supervised field work under faculty direction.
4. Completion of a problem report.
5. Demonstration of competency in the theory and practice of social work to the satisfaction of the faculty of the Department. This will include passing with a satisfactory grade a comprehensive final examination, which may be oral or written, or both, at the discretion of the Department. The degree will not be awarded solely for credits earned.

For most students the requirements for the Master of Social Work Degree can be met in one year after completion of the requirements for the certificate.

THE DEGREE OF DOCTOR OF PHILOSOPHY

Requirements for Candidacy

Admission to the Graduate School and enrollment in graduate courses does not of itself imply acceptance of the applicant for a Doctor's Degree. After a period of residence the applicant will be admitted to a comprehensive preliminary or qualifying examination (either oral or written or both) in which he must demonstrate (a) a grasp of the important phases and problems of the field of study in which he proposes to major and an application of their relation to other fields of human knowledge and accomplishments, (b) the ability to employ rationally the instruments of research that have been developed in his major field, and (c) the ability to read French and German to the satisfaction of his examining committee.*

When an applicant has successfully passed his qualifying examination he will be formally promoted to candidacy for the Doctor's Degree. Admission to candidacy must precede the final examination for the Doctor's Degree by at least one academic year. Graduate courses pursued in fulfillment of the requirements for the Master's Degree, if of suitable character and quality, may be credited toward the doctorate.

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shall be accepted for credit. If the adviser and the Dean cannot agree, the case shall be brought before the Executive Committee for review. In the event that a graduate student began work during the war period, an extension up to a maximum of five years may be granted.

*With the approval of the Dean of the Graduate School, one other language may be substituted for French or German.

Requirements for Completion

(a) *Curriculum*: The Degree of Doctor of Philosophy is not awarded for the mere accumulation of course credits nor for the completion of a definite residence requirement. The exact amount and nature of course work to be undertaken by a candidate will be determined in light of his previous preparation and the demands of his chosen field of application. The aggregate of correlated courses of graduate instruction, should, however, be no less than 60 semester hours, exclusive of research or thesis, except research or thesis credits earned for the Master's Degree. These credits shall be ordered and distributed so as to promote broad and systematic knowledge and the ability to carry on independent research.

(b) *Residence*: In general the requirements for the Doctor of Philosophy Degree contemplate at least three years of full-time graduate work beyond the Bachelor's Degree. A minimum of 36 weeks in residence in full-time graduate study at West Virginia University is required.

(c) *Thesis*: The candidate must submit a thesis pursued under the direction of the faculty of this University on some problem in the field of his major interest. The thesis must present the results of the candidate's individual investigation and must embody a definite contribution to knowledge.

(d) *Special Requirements*: The candidate must satisfy such special requirements subject to approval of the Dean of the Graduate School, as may be required by the faculty of the college or department in which his major lies. All required examinations in modern languages shall be taken not later than one academic year before the final examination for the degree.

(e) *Final Examination*: If the candidate's thesis is approved and he has fulfilled all other requirements stated above, he will be admitted to final oral examination on his thesis before his examining committee. At the option of this committee, a comprehensive written examination also may be required.

Note: Departments offering the Degree of Doctor of Philosophy are: Agricultural Biochemistry, Agronomy and Genetics, Chemical Engineering, Chemistry, Geology, History, and Plant Pathology and Bacteriology.

THE DEGREE OF DOCTOR OF EDUCATION

This is a professional degree open to school leaders, administrators, teachers, and counselors who furnish evidence of significant and appropriate teaching experience. Persons expressing a desire to pursue the program leading to this degree must satisfy a College of Education faculty Committee on Prerequisites.

The School of Journalism

GENERAL INFORMATION

THE SCHOOL OF JOURNALISM

The first instruction in journalism at West Virginia University consisted of a two-hour course in news writing offered in 1915 in the Department of English of the College of Arts and Sciences. A sequence of professional courses was inaugurated by the same department in 1920. As the demand increased, a complete professional curriculum was made available. In 1927 an additional full-time instructor was engaged, larger quarters were obtained, and a separate Department of Journalism was created.

From year to year as enrollments grew, notice was taken of the superior quality and esprit de corps of the students who chose journalism as a field of major concentration. In 1935 a third full-time instructor was employed, and laboratories for instruction in news photography and typography were provided. By 1938 no fewer than 160 alumni had graduated from the professional courses, and many were filling positions of distinction. Forty per cent of the number were connected with newspapers and magazines. The others were engaged in advertising, business, public relations, radio, high-school or college instruction, library administration, and secretarial work or in the activities of homemakers and community leaders. More than ninety-seven per cent were employed.

In consequence of the substantial development over nearly two decades and in view of the rapid advancement of professional schools of journalism throughout the nation, the University Board of Governors on April 22, 1939, separated the journalism unit from the College of Arts and Sciences and reorganized it as a School of Journalism with an administrative status similar to that of other schools and colleges of the University. Since that time the School has conferred the degree of Bachelor of Science in Journalism on 224, of whom 125 are men. Since 1920 the University has graduated 394 persons with journalism as a major field of study. Of this number slightly fewer than half are women. A fourth full-time instructor was added in 1946 and a fifth full-time instructor in 1949. To expand and intensify the instruction in newspaper advertising, industrial journalism, radio journalism, news photography, printing processes, promotion, public relations and administration, nine lecturers in journalism were engaged for 1951-52.

Aims

The main purposes of the school are these: (1) to find and prepare superior young men and young women who contemplate reporting and other journalistic writing, or radio journalism, or advertising, or the editing and management of newspapers or special periodicals, as a career; (2) to provide in addition to thorough and complete technical training the broad informational background and sure intellectual discernment that distinguish educated persons; (3) to cultivate a full sense of the responsibility that modern workers in the field of communications must assume in their relation to the community, state, and nation, and to familiarize them with tested procedure in pursuing objectives of high social value; (4) to stimulate an inquiring attitude toward journalism as an institution and promote scholarly research in its various branches; (5) to furnish a suitable educational foundation for persons looking forward to business or professional work closely related to journalistic practice.

Standards

From the beginning, instruction in journalism at West Virginia University has been in accord with the best professional-school standards. Emphasis has ever

been on quality, not numbers. Only students with a scholastic rating of approximately "B" or higher have been encouraged to take the basic courses in reporting, and those not able to maintain an equally high standard in the first journalism courses have been requested to choose a major elsewhere.

The instructional staff has been engaged with careful attention to their individual ability to give expert instruction in particular fields. The curricula have been kept constantly abreast of progress in leading educational centers. Class sizes have never reached proportions where individual instruction had to be sacrificed. The school now conforms to recognized national standards, especially those required by the American Society of Journalism School Administrators, and is ranked with superior professional schools of the United States.

Location and Equipment

The School of Journalism is housed on the third floor of Woodburn Hall, an impressive structure in the center of academic activity. The journalism suite consists of fourteen rooms, including besides classrooms, a reading room, a large news laboratory, laboratories for news photography, typography, advertising layout, and radio journalism, offices for instructors, display quarters, an assembly room, and an administrative office.

In most respects the journalism rooms are equipped and used like the editorial and business quarters of a large weekly or a small-city daily newspaper. The large news room contains a U-copydesk, other work tables and desks, a morgue, a reference library, newspaper files, maps, telephones, and 25 typewriters with desks. There is also a teletypewriter on which United Press dispatches typed in the style of copy used on teletypesetter circuits may be received from 3 P.M. to 3 A.M. every day. These reports are edited for the University daily newspaper by journalism majors working under the supervision of faculty members. These wire reports also furnish laboratory material for various classes.

The reading room receives daily representative newspapers of the nation. It makes available for intensive study about 20 of the leading dailies, many carefully selected weeklies, and a number of the standard magazines of the United States. It has also a collection of the best high-school and college newspapers in West Virginia and other states. The school subscribes to most of the important special periodicals of the publishing and writing professions. A number of journalism books in frequent use are shelved in this room and the School library.

For instruction in newspaper typography a laboratory is equipped not only for providing demonstration material but also for giving the individual student extensive practice in the setting and adaptation of type. The news-photography darkroom and equipment afford adequate practice facilities for those wishing to specialize in news-reporting with the camera. Equipment for training in the various journalistic aspects of radio has been provided. The school offers comprehensive programs of instruction in radio journalism, industrial publications, and public relations.

Additional opportunities for observation and practice, especially in the business and mechanical aspects of newspaper work, are provided at the plant of the West Virginia Newspaper Publishing Company, in Morgantown, where the University newspaper is printed under contract.

Practice Opportunities

Opportunities for applying the principles of sound newspaper and radio practice are good. The *Daily Athenaeum,* a five-day campus newspaper, is produced by journalism students in the various workrooms of the school where laboratories are conducted from 2-5 P.M. and from 7-10 P.M. every day except Saturday and Sunday. Reporters working on news runs cover the University community thoroughly, and trained deskworkers not only edit the local reporters' copy but also prepare for publication the dispatches of state, national, and world origin received by the United

Press teletype. Local pictures are taken by the campus newspaper's own staff photographers, and other news pictures are selected from mats purchased from a national distributor.

All reporters serve as correspondents of weekly and daily newspapers. Majors pursuing the advertising-management sequence are required to spend no fewer than five hours a week soliciting advertising accounts for the campus daily, writing copy and otherwise servicing their accounts, and making collections for advertising sold. Some students get additional practice by working part-time for Morgantown dailies or by taking vacation positions on newspapers of their home community. Majors are especially urged to obtain vacation work on a good weekly or daily newspaper during the summers that precede their junior and senior years. As a rule, student journalists have staff positions on, or are regular contributors to, other campus publications.

Students in the radio journalism sequence receive practical instruction not only in the University broadcasting studio but at Station WAJR, Morgantown, with which working relations exist. Campus, local, and world news is broadcast at WAJR every day from scripts prepared by radio students. Special scripts are also presented from time to time. In the school's radio laboratory are records for making recordings, a playback, a wire recorder, a tape recorder, a receiving set, and other equipment essential to such instruction.

The Placement of Graduates

During the last three decades alumni who had completed all or most of the professional courses in journalism have found little difficulty in finding desirable positions. Although the school cannot guarantee positions to graduates, it is glad to assist them in learning of openings and in making contact with employers. To this end it maintains without charge a placement register for both current and past graduates. Students and alumni are also invited to make free use of the University Placement Service.

Professional Relations and Services

For 30 years publishers, editors, and other communications workers have paid annual visits to the University campus to attend the State Journalism Conference. Among the organized groups that have participated are the West Virginia Publishers' Association, the West Virginia Associated Press, the West Virginia State Newspaper Council, West Virginia Industrial Magazine Editors, the West Virginia Broadcasters' Association, the West Virginia Sports Writers' Association, and the West Virginia Intercollegiate Press Association. On these occasions the journalism faculty and students have become acquainted with the practicing press, and members of the Fourth Estate have come to know one another better and have exchanged tested ideas.

About one hundred of the leading newspaper men of the nation and world have made addresses at these conferences. Technical experts have traced the progress of journalistic science and invention. Business and advertising specialists have conducted practical symposia in which their hearers freely took part. Editors of vision have given arresting glimpses of the still greater journalism of the future. The opportunity to hear leaders of newspaper organizations and to mingle with persons successfully engaged in newspaper practice and other forms of mass communication has long been appreciated by the young men and women in training.

In order to perpetuate the names, achievements, and ideals of the state's distinguished editors and publishers of the past, the West Virginia Journalism Hall of Fame was instituted in 1935. Elections, which are made by the members of the State Newspaper Council, take place every two years. Suitable memorials will be placed in appropriate quarters of the School of Journalism. The names of persons thus far honored follow:

Archibald Campbell (1833-1899). Wheeling Intelligencer. Elected 1935.
Andrew Price (1871-1930). Pocahontas Times, Marlinton. Elected 1935.
John Gabriel Jacob (1826-1903). Wellsburg Herald. Elected 1937.
Enos W. Newton (-1856). Kanawha Republican, Charleston. Elected 1937.
Albert Sidney Johnson (1863-1925). Monroe Watchman, Union. Elected 1939.
Harry Lambright Snyder (1861-1935). Shepherdstown Register. Elected 1939.
Jefferson Slidell Brown (1861-1935). Randolph Enterprise, Elkins. Elected 1941.
Robert S. Northcott (1818-1905). National Telegraph, Clarksburg. Elected 1941.
William E. Chilton (1858-1939). Charleston Gazette. Elected 1943.
Howard Holt (1883-1936). Grafton Sentinel. Elected 1943.
Aldine S. Poling (1867-1936). Barbour Democrat, Philippi. Elected 1945.
Herschel Coombs Ogden (1869-1943). Wheeling News-Register and other West Virginia newspapers. Elected 1945.
Gilbert Miller (1878-1939). Post and Dominion-News, Morgantown. Elected 1947.
Horatio Seymour Whetsell (1868-1941). Preston County Journal, Kingwood. Elected 1947.
William M. O. Dawson (1853-1916). Preston County Journal, Kingwood. Elected in 1949.
Samuel Alexander McCoy (1880-1935). Moorefield Examiner. Elected in 1949.
William B. Blake, Sr. (1851-1938). West Virginia News, Ronceverte. Elected in 1951.
Earl Herndon Smith (1879-1940). Fairmont Times. Elected in 1951.

From the beginning the press of the state has assumed a cordial and co-operative attitude toward professional training for journalism at the University. For many years the State Newspaper Council has had among its standing committees one on Educational and Professional Standards and another on School of Journalism Building. The former group has interested itself long and earnestly in helping the journalism unit maintain high-grade instruction and offer study inducements such as scholarships to superior young people, and the latter is concerning itself with ways and means of obtaining still better housing and equipment facilities for the school.

Because of intensive study of elementary journalism in high schools and increasing attention paid to school publications, together with wide use of the newspaper as a teaching aid in English, civics, history, geography, science, and other subjects, the University has long cooperated with the state's educators. The School of Journalism provides an annual critical service for high-school news-periodicals and awards various degrees of excellence. It also unites with the West Virginia Association of Scholastic Journalism Directors each year in conducting a two-day State Institute of Scholastic Journalism in which the problems of teaching journalism and publishing newspapers and annuals are professionally considered.

Journalism Organizations

Journalism organizations of which eligible students may become members are: the University Press Club, to which all proficient reporters and advanced students belong; Theta Sigma Phi, national organization of high-scholarship women in schools of journalism and of professional women in newspaper, magazine, radio, publicity, and other writing fields; Journaliers, professional fraternity; and Kappa Tau Alpha, national journalistic scholarship society, to which about ten per cent of the highest-ranking majors are elected each year. Many other University organizations are also open to journalism students with special interests outside the field of journalism.

Courses Open to Non-Journalism Majors

Major students in other colleges of the University may pursue courses in journalism for credit, provided these students can offer in each instance the necessary prerequisites.

Proficiency in English

Regular students of the University or transfers from other colleges and universities are expected to speak and write the English language with a marked degree of correctness. This means that in their English composition courses they should have achieved a standing of approximately "B" or higher. If upon entering the School of Journalism a student is found deficient in English, he will be required to take one or more additional courses in rhetoric.

Typewriting and Shorthand

Before or soon after entering the University, a student planning to become a journalism major should learn the touch system of typewriting. From the beginning every reporter is expected to submit copy in neat typewritten form and to have a typing speed of no fewer than forty words a minute. If the reporter cannot demonstrate such typing ability, he may be asked to withdraw from the reporting course. He will find it advantageous to have his own machine.

Persons training for book-publishing or advertising-agency work and those expecting to become secretaries or assistants to executives find shorthand either desirable or indispensable. Such students are advised to learn it before coming to college or during their freshman or sophomore year.

The Committee on Scholarship

Messrs. Reed, Bond, and Van Guilder.

REQUIREMENTS FOR THE DEGREE

THE BROAD EDUCATIONAL FOUNDATION

Far more than previously, newspaper publishers and other executives in the field of communications are insisting that their staff members be persons with a broad educational background. The day of the practitioner narrowly drilled in certain techniques and possessing only limited general culture is rapidly passing. As a result the modern school of journalism devotes 75 per cent of its curricula to studies that provide a comprehensive and authoritative education.

Among the foundation courses that receive special attention are these: the English language and literature; modern foreign language (Spanish, German, French, and Russian recommended, in that order); theoretical and applied economics, and business administration; national, state, and local government and the government systems of foreign countries; American politics and international relations; the problems of management and labor and their social implications; American and European history; philosophy, psychology, and natural science. Persons capable of producing newspapers or broadcasting news events and their interpretation with which today's readers and listeners will be satisfied must be thoroughly informed about all aspects of the modern world. They must also know the art and science of the best journalistic practice.

BACHELOR OF SCIENCE IN JOURNALISM

A candidate who has satisfied all general requirements of the University and who as a regularly enrolled student of the School of Journalism has earned 64 semester hours of credit of a value specified later in the Scholarship section and in the subjects listed in one of the professional curricula hereinafter outlined will be recommended for the degree of Bachelor of Science in Journalism, provided the combined number of his credits acquired as a pre-journalism student and as a regularly enrolled journalism major totals no fewer than 128. As a minimum professional requirement, 25 of the 64 semester credits earned after the student

has enrolled in the school must be obtained in journalism subjects. Moreover, no fewer than 60 of the 64 hours mentioned above shall be obtained in courses numbered between 100 and 300.

Foreign Languages

To be eligible for graduation, a student must have completed 12 semester hours in one language or 6 semester hours in each of two foreign languages in college; or he must have offered 2 units in a modern foreign language for entrance and must have completed 6 hours in the same language in college.

Laboratory Sciences

A candidate for the degree must have acquired 8 hours in one of the following laboratory sciences: biology, botany, chemistry, geology, physics, psychology, and zoology.

Maximum and Minimum Work

During each semester a regular student may register for no fewer than fourteen and no more than eighteen hours. To obtain permission, however, to carry eighteen hours, a student must have maintained an average in all subjects of "B" or higher during the preceding semester. Variation from the foregoing rule will be allowed only on recommendation of the School's Committee on Scholarship.

Exemptions from Requirements

Exemption from any professional course because of practical newspaper experience that a student may have had will be granted only after the student has submitted satisfactory evidence as to the nature and quality of the experience. For such exemptions approved advanced courses shall be substituted. Credit toward a degree can be granted for practical work only when it has been done under the supervision of an accredited instructor.

Professional Adviser

The director of the School of Journalism is the general adviser for all journalism students. Not only juniors and seniors but pre-journalism freshmen and sophomores should consult him about all scholastic and curricular problems that may arise.

THE MINOR FIELD

Since the prospective newspaper, radio, or industrial-journalism worker needs the broadest and most thorough education possible, he will find his opportunities and usefulness enlarged if while in the professional school he devotes himself to a second field of concentration. To meet the requirements for a minor, he must earn at least twelve semester hours of credit in some other subjects than journalism, nine of which must be in the junior and senior courses.

Minors especially recommended for journalism students are business administration, economics, education, English, history, political science, and sociology. Since there is a growing demand for journalistic writers who can interpret developments in agriculture, astronomy, chemistry, home economics, physics, and other related subjects, students with sufficient technical background will be encouraged to select a minor in one of these scientific fields.

SCHOLARSHIP

Graduates of the School of Journalism are expected to be not only citizens of good manners, of honorable and upright character, and of respect for other people and their ideas, but alert individuals of better-than-average intellectual attainments. It is urged, therefore, that all candidates for a degree aspire to earn at least three times as many grade points as they have credit hours. To be eligible for graduation, a student must maintain as a minimum during the junior and senior years an average of 2½ grade points for every semester hour of credit earned.

GRADUATE STUDY

Although at the present time the School of Journalism is devoting its instructional facilities chiefly to professional curricula that lead to the degree of Bachelor of Science in Journalism, it frequently provides a graduate minor for students taking the Master's Degree in a field of specialization related to journalism.

PRE-JOURNALISM CURRICULUM

With the view of moving directly toward established objectives, the School of Journalism assists the student during his freshman and sophomore years by designating several of the courses for which he should enroll. In arranging his schedule each semester, the student will be provided with competent advisory service under the supervision of the director. Juniors and seniors who have been admitted to the professional curricula will register in the School of Journalism.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Eng. 1—Comp. and Rhet.	3	Eng. 2—Comp. and Rhet.	3
Hist. 1—Europe to 1815	3	Hist. 2—Europe since 1815	3
Science	4	Science	4
Foreign language	3	Foreign language	3
Jour. 1—Intro. to U.S. Jour.	1	Jour. 2—Intro. to Reporting Skills	1
Phys. ed. (men and women)	1	Phys. ed. (men and women)	1
Mil. or Air.	2	Mil. or Air.	2
Electives	0-2	Electives	0-2
Maximum hr. allowed	16-17		16-17

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Jour. 11—Newspaper Report.	3	Jour. 12—Newspaper Report.	3
Hist. 52—Hist. of U. S.	3	Hist. 53—Hist. of U. S.	3
Foreign language (if needed)	3	Foreign language (if needed)	3
Eng. 6—American Literature*	3	Eng. 4—English Literature*	3
Econ. 1—Prin. of Econ.	3	Econ. 2—Prin. of Econ.	3
Psych. 1—Intro. to Psych.†	3	Pol. Sci. 5—Am. Fed. System	3
Mil. or Air.	2	Mil. or Air.	2
Phys. ed. (women)	1	Phys. ed. (women)	1
Electives‡	0-4	Electives‡	0-4
Maximum hr. allowed	16-17		16-17

*Majors unable to schedule Eng. 4 and Eng. 6 in their sophomore year will be required to take them in their junior year.

†A sophomore expecting to become a high-school teacher will choose an elective in his intended teaching field as a substitute for Psychology 1, and in his junior year will take Education 105, "Educational Psychology."

CURRICULA

The School of Journalism offers three curricula designed to fit students for specialized branches of journalism practice or for occupations or professions for which journalistic training is desirable or necessary preparation. Each sequence leads to the degree of Bachelor of Science in Journalism.

NEWS-EDITORIAL CURRICULUM

The news-editorial sequence is designed primarily for the student who wishes to prepare himself for work as a reporter, copyreader, special writer, or departmental editor and who hopes to advance later to a still more responsible position in the general news and editorial field.

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Jour. 103—Copy Editing	3	Jour. 104—Copy Editing	3
Jour. 105—Applied Newspaper Management	3	Soc. 102—Intro. to Sociology	3
Jour. 127—Hist. of American Jour.	3	Jour. 220—Newspaper and Magazine Article Writing	3
Jour. 113—Principles of Advertising	3	Eng. 142—Shakespeare, or Eng. 259 —Dramatic Art of Shakespeare	3
Pol. Sci. 106—Amer. State and Local Government	3	Advanced Political Science	3
Electives	1-3	Electives	4-6
Maximum hr. allowed	16-18		16-18

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Jour. 230—Editorial Writing and Policy	3	Jour. 231—Social Responsibility of Journalism	3
Jour. 221—Critical Writing	2	Jour. 128—Adv. Reporting	3
Eng. 180 or Eng. 181— Bible Literature	3	Jour. 210—Law of the Press	2
Phil. 4—Intro. to Philosophy	3	Advanced social science or literature or language	3-7
Jour. 110—Newspaper Typography	2	Electives	8-10
Electives	3-5		
Maximum hr. allowed	16-18		16-18

ADVERTISING-MANAGEMENT CURRICULUM

The advertising-management professional sequence is arranged for the student who expects to enter some branch of the business department of a newspaper and who looks forward sooner or later to the management or ownership of a publication. Opportunities in the business department are considered even better than in the news-editorial branch.

‡Because of the growing demand for graduates trained for advertising, promotion, circulation, and other positions in the business department of newspapers, sophomores are permitted to elect Jour. 110, "Newspaper Typography," or Jour. 113, "Principles of Advertising," or both, if their schedules will permit. Because of the increasing public interest in radio journalism, sophomores may also elect Jour. 122, "Elements of Radio Journalism," provided their schedules will permit.

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Jour. 105—Applied Newspaper Management	3	Jour. 115—Advertising Layout and Copy	2
Jour. 110—Newspaper Typography	2	Jour. 103—Copy Editing	3
Jour. 112—Public Relations	2	Jour. 114—Applied Advertising Sales	4
Jour. 113—Principles of Advertising	3	Geol. 109—Economic Geography or Geol. 116—Geography of North America	3
Pol. Sci. 106—Amer. State and Local Government	3	Bus. 6—Principles of Accounting	3
Bus. 5—Principles of Accounting	3	Electives	1-3
Electives	0-2		
Maximum hr. allowed	16-18		16-18

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Jour. 230—Editorial Writing and Policy	3	Jour. 108—Community Newspaper	2
Eng. 142—Shakespeare, or Eng. 259—Dramatic Art of Shakespeare, or Eng. 180 or Eng. 181—Bible Literature	3	Jour. 231—Social Responsibility of Journalism	3
Soc. 102—Intro. to Sociology	3	Jour. 128—Adv. Reporting	3
Economics and Business Administration*	7-9	Jour. 210—Law of the Press	2
		Pol. Sci. 107—Amer. City Gov't.	3
		Econ. and Bus. Administration*	3-5
Maximum hr. allowed	16-18		16-18

GENERAL CURRICULUM

The general curriculum is planned for the following classes of majors:

A. Those wishing to make journalism a special field of concentration while getting a broad, general education of modern content.

B. Those expecting to follow radio journalism as a career.

C. Those preparing to take a position in high school as teacher of journalism, English, and social sciences and as director of student publications.

D. Those looking forward to work on specialized business and trade periodicals, on household magazines and newspaper women's pages, or on agricultural and scientific publications.

E. Those desiring to be public-relations writers or directors or to enter the Federal or state civil service.

F. Those fitting themselves for secretaries or assistants to executives.

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Jour. 112—Public Relations	2	Jour. 103—Copy Editing**	3
Jour. 113—Principles of Advertising	3	Jour. 220—Newspaper and Magazine Article Writing	3
Jour. 122—Elements of Radio Jour.	2	Soc. 102—Intro. to Sociology	3
Jour. 127—Hist. of Amer. Journalism	3	Geol. 109—Economic Geography, or Geol. 116—Geography of North America	3
Pol. Sci. 106—Amer. State and Local Government	3	Electives in second field of concentration†	4-6
Electives in second field of concentration†	3-5		
Maximum hr. allowed	16-18		16-18

FOURTH YEAR

Jour. 230—Editorial Writing and Policy	3	Jour. 231—Social Responsibility	
Jour. 221—Critical Writing or Advanced Eng. Composition	2	Jour. 128—Adv. Reporting	3
Jour. 120—News-Photography, or Jour. 110, Newspaper Typography	2	*Second Sem.*	*Hr.*
Phil. 4—Intro. to Philosophy	3	Jour. 108—Community Newspaper of concentration†	2 8-10
Eng. 142—Shakespeare, or Eng. 259—Dramatic Art of Shakespeare	3	*First Sem.*	*Hr.*
Electives in second field of concentration†	3-5	of Journalism	3
		Electives in second field	
Maximum hr. allowed	16-18		16-18

COURSES OF INSTRUCTION

Abbreviations used in the announcements have the following meanings: I, a course given the first semester; II a course given the second semester; S, a course given either the first or the second term of the Summer Session or both; I, II, S, a course given each semester and during the Summer Session; hr., number of credit hours per course; PR: prerequisite.

The following system of course numbering is employed; Courses 1-99, intended primarily for sophomores; courses 100-199, intended primarily for juniors and seniors; courses 200-299, advanced courses open to juniors, seniors, and graduate students.

1. Introduction to United States Journalism. I. 1 hr. Required of pre-journalism freshmen and open to others. Staff

2. Introduction to Reporting Skills. II. 1 hr. PR: English 1 with a grade of "C" or higher. Newspaper vocabulary, words difficult to spell, newspaper paragraphing, sentence beginnings, position of explanatory matter, copy condensation, newspaper analysis for identifying techniques, basic principles in interviewing, style sheet, and avoidance of the commonest errors in journalistic

*Courses in economics and business administration especially recommended for students pursuing the Advertising-Management Curriculum are: Bus. 121, "Elements of Marketing"; Bus. 125, "Principles of Retailing"; Bus. 141, "Business Law"; Econ. 131, "Statistics"; Econ. 173, "Economics of Consumption."

**Students following sequences (a), (c) or (d) in the General Curriculum are required to take Jour. 104, the second half of the "Copy Editing," since their future work may require a thorough knowledge of all aspects of the makeup and layout of pages.

†In his second field of concentration a student pursuing the General Curriculum must acquire before graduation at least 18 hours of credit in subjects bearing directly on his contemplated vocation other than newspaper work proper. In Sequence A, he will acquire approximately a double minor (at least 15 hours in courses between 100 and 300) in some traditional liberal-arts subject. In Sequence B, he will give special attention to newscasting, news commentary, continuity writing, program building, commercial copywriting, and radio advertising. He will also include courses in voice and diction and in radio announcing. In Sequence C, he will take 20 hours of professional education courses. In Sequence D, he will include advertising, marketing, finance, business law, labor relations, personnel management, business communications, and, if possible, statistics. In Sequence E, he will include psychology of advertising in industry, elements of marketing, labor relations, political parties and public opinion, American economic history and, if possible, statistics. In Sequence F, he will include business mathematics, business communications, secretarial training, a year of shorthand, and other similar courses adapted to his anticipated vocational need.

writing. Required of pre-journalism freshmen and open to others.
Mr. Bond and Mr. Krakowski

11. Newspaper Reporting. I, II. 3 hr. PR: English 1 and 2, with an average of 2.5 or higher for the two courses: Two lectures and three laboratory hours. Students are required to know how to use a typewriter.
Mr. Bond and Mr. Krakowski

12. Newspaper Reporting. I, II. 3 hr. Two lectures and three laboratory hours. Continuation of Journalism 11, which is prerequisite. Mr. Bond

103. Copy Editing. I, II. 3 hr. PR: Journalism 11 and 12 or consent of instructor.
Mr. Kidd

104. Copy Editing. I, II. 3 hr. PR: Journalism 103 or consent of instructor.
Mr. Kidd

105. Applied Newspaper Management. I. 3 hr. PR: Journalism 11 and 12 or consent of instructor. Two lectures and two laboratory hours. Mr. Van Guilder

108. The Community Newspaper. II, S. 2 hr. PR: Journalism 11 and 12 or consent of instructor. Mr. Van Guilder

110. Newspaper Typography. I, II. 2 hr. PR: Journalism 11 and 12 or consent of instructor. Mr. Van Guilder

112. Public Relations. I, S. 2 hr. Mr. Krakowski

113. Principles of Advertising. I, II. 3 hr. Mr. Van Guilder

114. Applied Advertising Sales. I, II. 4 hr. PR: Jour. 113. Practical application of advertising principles, with stress on newspaper advertising. Selling of space, preparing retail copy and otherwise servicing local newspaper accounts. Two lecture and conference hours and five laboratory hours a week. Limited enrollment. Mr. Van Guilder

115. Advertising Layout and Copy. II. 2 hr. PR: Jour. 113. Theory and practice of effective layout and copy for newspaper advertising. Scientific advertising planning for the local merchant. Mr. Van Guilder

120. News Photography. I, II, S. 2 hr. PR: Journalism 11 and 12 or consent of instructor. One lecture hour and one demonstration hour; a two-hour lab-

122. Elements of Radio Journalism. I, S. 2 hr. PR: Journalism 11 and 12 or consent of instructor. One lecture and two laboratory hours. Mr. Krakowski

123. Advanced Radio Writing. II. 2 hr. PR: Journalism 11 and 12 and Journalism 122 or consent of instructor. One lecture and two laboratory hours.
Mr. Krakowski

125. Industrial Journalism. II. 2 hr. PR: Jour. 112 or its equivalent. This course treats the relations of industry to its many publics and the use of internal and external publications as public-relations media. A critical study of the production of industrial publications is made, followed by extensive practice. Mr. Krakowski

127. History of American Journalism. I. 3 hr. PR: Hist. 52 and Hist. 53.
Mr. Bond

128. Advanced Reporting. I, II. 3 hr. For juniors and seniors in journalism.
Mr. Bond

210. Law of the Press. II, S. 2 hr. For journalism seniors and graduates, or consent of instructor. Mr. Bond

215. High-school Journalism and Student Publications. II, S. 2 hr. For seniors and graduates. Mr. Bond

220. Newspaper and Magazine Article Writing. II, S. 3 hr. For juniors, seniors, and graduates. Mr. Kidd and Mr. Reed

221. Journalistic Critical Writing. I. 2 hr. For seniors and graduates. Mr. Reed

230. Editorial Writing and Policy. I. 3 hr. For seniors and graduates. Mr. Kidd and Mr. Reed

231. Social Responsibility of Journalism. II, S. 3 hr. For seniors and graduates. Mr. Reed

The College of Law

GENERAL INFORMATION

THE COLLEGE OF LAW

The College of Law, established in 1878, is the oldest professional school in the University.

In 1897 the course of study was increased from one year to two years. Since 1912 the degree of Bachelor of Laws has been conferred only upon the satisfactory completion of three years of law-school work. From 1913 to 1924 the requirement for admission was one year of college work; from 1924 to 1931 the requirement was two years. Since 1931 the minimum pre-law requirement for the degree has been three years of work of collegiate grade in an institution of approved standing.

In 1914 the College of Law was admitted to membership in the Association of American Law Schools, which is an organization of leading schools for the purpose of maintaining high standards in legal education. The College of Law also is on the list of schools approved by the American Bar Association.

The Law Building

The College of Law occupies a fireproof building, erected for its use in 1923. The building is three stories high. It contains two classrooms and a practice-court room, as well as private offices for each member of the staff. The library has a reading room accommodating the entire student body. In addition, the building has a locker room and club rooms for the students.

The Law Library

The Law Library contains more than 52,000 volumes. It includes reports of the highest courts of all states, insular possessions, and the District of Columbia, with the exception of a few volumes no longer obtainable, together with published reports of the lower courts of various states; the National Reporter System, and reports of the Federal courts and commissions; selections of annotated cases; the American and the English encyclopedias of law; the American Digest. It also contains reports of the English courts, as contained in the English Reprint and the Law Reports, as well as the Irish reports, the Scotch reports, and the more important Canadian and Australian reports; the English statutes and the statutes of the various states, as well as Federal statutory material, including more modern codes and compilations; a complete collection of codes and session laws of the Virginias from the time of early settlers; treatises and textbooks, representative fairly of the legal literature dealing with common law and with civil law, including a large amount of old English historical material.

In addition to these, there are legal periodicals and an extensive collection of bar-association reports and legal miscellany; briefs and records of cases decided by the Supreme Court of Appeals of West Virginia, now totaling more than 1,200 volumes, together with briefs and records of the more recent cases in the Circuit Court of Appeals of the United States for the Fourth Circuit.

Admission to the Bar

Under the provisions of the West Virginia Code 1931, ch. 30, art. 2, sec. 1, those who receive the degree of Bachelor of Laws from West Virginia University may be admitted to the bar without further examination.

All persons seeking admission to the West Virginia bar, except those who hold the degree of Bachelor of Laws from West Virginia University, are required to pass the state bar examination.

Information as to the bar examinations and as to other matters relating to admission to the bar may be obtained upon inquiry directed to the Secretary, State Board of Law Examiners, Charleston, West Virginia.

The West Virginia Law Review

The West Virginia Law Review is published in December, February, April, and June by the College of Law. It is the official publication of the West Virginia Bar Association.

The editors of the Student Note and Recent Case Department of the *Law Review* are members of the second- and third-year classes, chosen each year from those students who made the highest grades in the preceding year. This department affords to students an opportunity to do research work of a practical nature.

ADMISSION REQUIREMENTS

Irregular Students

A limited number of students with less than the academic credit required of candidates for the degree of Bachelor of Laws will be admitted under the following conditions:

(1) If they have credit for no less than two years of work of collegiate grade in an institution of approved standing, or if they present a statement from the West Virginia State Board of Law Examiners certifying that they have satisfied the prelegal educational requirements of the Board;

(2) If they are at least 23 years of age;

(3) If they present some good reason, acceptable to the Scholarship Committee, indicating that their experience and training have especially equipped them to engage successfully in the study of law, despite lack of the required college credits.

An applicant who has been admitted as an irregular student and who, since his admission, has completed all the requirements for admission as a regular student, may upon the satisfactory completion of one full year of work in the College of Law, apply to the Scholarship Committee for permission to be granted the status of a regular student and to be given credit for law school work of a "C" grade or better taken while he was an irregular student.

Students in Other Colleges

Students of at least senior standing in other colleges or schools of the University may be permitted to take work in the College of Law subject to the regulations of the units where they are registered and of the College of Law, but conditioned in each case upon the consent of the instructor giving the course which such students desire to take.

REQUIREMENTS FOR DEGREES

BACHELOR OF LAWS

The degree of Bachelor of Laws is conferred upon those who have met the requirements for entrance to the College of Law as candidates for this degree and who have satisfactorily passed examinations in courses aggregating eighty-one credit hours, distributed over three years' residence. They must also have obtained an average grade of "C" as hereinafter provided. Except with the permission of the Scholarship Committee these eighty-one hours must be taken in no more than six semesters or the equivalent thereof in summer school, and the last twenty-seven hours of work must be taken in the College of Law of West Virginia Uni-

versity. When a student, because of admission with advanced standing from another law school, needs less than eighty-one hours in order to satisfy the requirements for this degree, the "C" average required for graduation is computed on the basis of work taken in the College of Law. No student may receive the degree of Bachelor of Laws without at least three semesters in residence at the College of Law and the successful completion of courses aggregating at least one-half of the total number of hours required for graduation. Candidates for the degree of Bachelor of Laws, entering the College of Law after September 1, 1953, shall be required to pass the proficiency examination in English given by the English Proficiency Board of the University.

COMBINED DEGREES: A.B. AND LL.B.

Students who have satisfied the minimum requirements for admission to the College of Law and have also completed 12 hours of work in a major and 9 hours in a minor, together with sufficient electives to amount to 96 hours, may be admitted as candidates for the combined degrees. The successful completion of the entire first year of work in the College of Law will satisfy remaining requirements for the degree of Bachelor of Arts. Two additional years of work in the College of Law are required for the degree of Bachelor of Laws.

THE PRACTICE COURT

Supplementing the procedural courses and, in particular, the course in Practice and Procedure, the College of Law conducts a Practice Court under the instruction and direct supervision of a member of the faculty. Its primary purpose is to give the students practical experience in coordinating and applying in an actually litigated case, the legal knowledge which they have acquired in their classroom courses. The cases are tried exactly as they would be tried in an ordinary court. The first session is presided over by Professor Carlin, who has charge of the course in Practice Court, and the other sessions are presided over by a judge of the Supreme Court of Appeals or of one of the circuit courts of West Virginia.

The court exercises original jurisdiction in law and equity, and appellate jurisdiction in appeals from inferior tribunals. Statements of facts are furnished, such as would be related to a lawyer in active practice by his client. Each student must determine whether or not upon such facts the particular case in hand is one of common law or equity. He must then frame his pleadings, serve his summons or notice, and answer his adversary's pleadings until issue is joined in legal manner. Thereupon the case is brought on for trial or hearing in strict accordance with legal procedure, witnesses are examined and cross-examined, and the case is conducted through all the various stages of trial or hearing down to and including the judgment, decree, or sentence; after which, should the case be appealed, it must be carried through the Supreme Court, involving the preparation of the record on appeal, briefs of counsel, and argument.

COURSES OF INSTRUCTION

It is the primary aim of the College of Law to give the student an adequate preparation for the practice of law. This involves not merely imparting a knowledge of the legal rules and other materials which courts employ, but also, what is equally important, a training in the techniques of legal thinking. Work of the student is based chiefly upon the study and discussion of decided cases and statutes, with collateral reading of textbooks and periodicals, elucidated by free discussion in class. Special emphasis is given to those West Virginia cases and statutes which differ from general law. Within limits, the school also seeks to inculcate an appreciation of the place of law in the ordering of society and to consider the problem of how law may more effectively adjust human relations.

The following program of instruction[9] is designed with these ends in view. The work of the first year is prescribed. All courses other than first-year courses are elective. Neither fewer than 13 nor more than 16 hours may be carried without the consent of the Committee on Scholarship.

FIRST YEAR

COMMON LAW REMEDIES. I. 2 hr. Cook, Readings on Forms of Action at Common Law. Mr. Lugar

CONTRACTS. I, II. 6 hr. Williston, Cases on Contracts, 5th ed. Mr. Donley

CRIMINAL LAW. I. 3 hr. Harno, Cases and Materials on Criminal Law and Procedure, 2d ed. Mr. Lugar

CRIMINAL PROCEDURE. II. 1 hr. Harno, Cases and Materials on Criminal Law and Procedure, 2d ed. Mr. Lugar

EQUITY I. II. 3 hr. Chafee and Simpson, Cases on Equity, 2d ed. Mr. Colson

PERSONAL PROPERTY. I. 2 hr. Bigelow, Cases on Personal Property, 3d ed. Mr. Carlin

PROPERTY I. I, II. 6 hr. Casebook to be announced. Mr. Collins

TORTS. I, II. 6 hr. Bohlen, Cases on Torts, 4th ed. by Harper. Mr. Brown

ADMINISTRATIVE LAW. II. 4 hr. Davis, Cases on Administrative Law. Mr. Abel

COURSES OPEN TO SECOND-YEAR AND THIRD-YEAR STUDENTS

BUSINESS ASSOCIATIONS. I. 3 hr. Casebook to be announced. Mr. Brown

COAL, OIL AND GAS. II. 3 hr. Kulp, Cases on Oil and Gas, 3d ed. Mr. Donley

COMMON LAW PLEADING (including Drafting of Pleadings). II. 4 hr. Sunderland, Cases on Common Law Pleading, 2d ed. Mr. Carlin

CONFLICT OF LAWS. II. 4 hr. Casebook to be announced. Mr. Collins

CONSTITUTIONAL LAW. I. 4 hr. Dodd, Cases on Constitutional Law, 4th ed. Mr. Abel

CORPORATIONS. I. 4 hr. Dodd and Baker, Cases on Business Associations, Corporations. Mr. Colson

DAMAGES. I. 2 hr. Casebook to be announced. Mr. Collins

DRAFTING LEGAL INSTRUMENTS. II. 1 hr. Mr. Carlin

EQUITY II. II. 3 hr. Chafee and Simpson. Cases on Equity, 2d ed. Mr. Lugar

EQUITY PLEADING AND PRACTICE. I. 2 hr. PR: Common Law Pleading. Clephane, Equity Pleading and Practice, and selected cases and statutes. Mr. Carlin

EVIDENCE. I. 4 hr. Morgan and Maguire, Cases on Evidence, 2d ed. Mr. Hardman

EXAMINATION OF WITNESSES. II. 1 hr. Morgan and Maguire, Cases on Evidence, 2d ed. Mr. Hardman

FEDERAL PROCEDURE. II. 2 hr. McCormick and Chadbourn, Cases on Federal Courts, 2d ed. Mr. Brown

[9]The program of courses as given here is subject to change.

LABOR LAW. II. 3 hr. Handler and Hays, Cases on Labor Law. Mr. Lugar

LANDLORD AND TENANT. II. 3 hr. Jacobs, Cases on Landlord and Tenant, 2d ed. Mr. Brown

LEGAL ETHICS. II. 1 hr. Hicks, Ethics of the Bench and Bar. Mr. Carlin

MUNICIPAL CORPORATIONS. I. 2 hr. Stason, Cases on Municipal Corporations, 2d ed. Mr. Brown

NEGOTIABLE INSTRUMENTS. I. 3 hr. Aigler, Negotiable Paper and Banking. Mr. Abel

PERSONS. II. 2 hr. Madden and Compton, Cases on Domestic Relations. Mr. Colson

PRACTICE AND PROCEDURE. I. 4 hr. PR: Common Law Pleading. Selected cases, statutes, and lectures. Mr. Carlin

PRACTICE COURT. II. 2 hr. PR: Common Law Pleading and Practice and Procedure. Mr. Carlin

PUBLIC UTILITIES. II. 2 hr. Robinson, Cases on Public Utilities, 2d ed. Mr. Hardman

QUASI CONTRACTS. I. 3 hr. Thurston, Cases on Restitution. Mr. Donley

REAL PROPERTY II. I, II. 5 hr. Leach, Cases on Future Interests, 2d ed., Leach, Cases on Wills, 2d ed., and Selected Essays on Wills and Future Interests. Mr. Highland

SECURED TRANSACTIONS. II. 3 hr. Sturges, Cases on Credit Transactions, 3d ed. Mr. Colson

STATE AND LOCAL TAXATION. II. 2 hr. Casebook to be announced. Mr. Collins

TAXATION. II. 4 hr. Magill and Maguire, Cases on Taxation, 4th ed. Mr. Abel

TRUSTS. I. 4 hr. Scott, Cases on Trusts, 3d ed. Mr. Colson

USE OF LAW BOOKS. I. 1 hr. Doubles and Farmer, Manual of Legal Bibliography. Mr. Collins

WILLS. I. 1 hr. Leach, Cases on Wills, 2d ed., and Selected Essays on Wills and Future Interests. Mr. Highland

The School of Medicine

I. Curriculum In Medicine

GENERAL INFORMATION

During the years from 1868 to 1912 the University offered courses in preclinical medical subjects, the scope and designation of the program changing from time to time. In the earlier years a course was scheduled in anatomy, physiology, and hygiene; and in later years the work had grown to include the first two years of a standard medical curriculum. From 1903 to 1911 the University maintained a College of Medicine, giving the M.D. Degree. The first two years were given in Morgantown. Credit for the last two years was accepted from the College of Physicians and Surgeons of Baltimore, to which students transferred at the end of their second year.

The School of Medicine as now organized had its beginning in 1912. Since that date it has given the first two years of the medical curriculum with no provision for students to transfer to any special school for the completion of their work until 1943, when an agreement was made with the Medical College of Virginia.

Medical Curriculum

FIRST AND SECOND YEARS

The School of Medicine now gives only the first two years of the medical curriculum. It is listed as a Recognized School of Basic Medical Sciences by the Council on Medical Education and Hospitals of American Medical Association. It is also a member of the Association of American Medical Colleges. Inasmuch as only the first two years are given at West Virginia University, students must go elsewhere for the completion of the work for the M.D. Degree. There are two possibilities as noted below.

THIRD AND FOURTH YEARS

The Medical College of Virginia. There is an agreement in operation with the Medical College of Virginia at Richmond for the transfer of as many as twenty-five students upon the completion of their second year at West Virginia University. At the Medical College of Virginia these students pay the same tuition as do residents of Virginia. Diplomas conferring the M.D. Degree are issued jointly by the two schools. The benefits of this agreement are available only to students who at the time of entering the medical curriculum had been residents of West Virginia for at least five years.

Other Medical Schools. In each class there are also some students who, by private arrangement, transfer to other medical schools of their own choice for the completion of the work.

Proposed Expansion of Medical School

The West Virginia Legislature in 1951 made provision for the expansion of the Medical School to include the four years required for the M.D. Degree. Training in dentistry and nursing also is to be included. It is too early to announce dates for the beginning of this program, inasmuch as the necessary planning and construction work will require many months. Until further announcement, the two-year curriculum will be continued as in recent years.

Clinical and Special Facilities

The following institutions and agencies are co-ordinated effectively for the clinical needs of the School of Medicine.

Hopemont Sanitarium, located at Hopemont, Preston County, 40 miles from Morgantown, is approved by the American Medical Association for residency. It has 450 beds and is a hospital primarily for pulmonary diseases. A substantial number of beds, however, are set aside for purely medical and surgical cases. By a special arrangement between the superintendent and staff of the Hospital and West Virginia University, the School of Medicine has access to the hospital for teaching purposes and the superintendent and members of the staff become University officials. This arrangement provides an excellent affiliation for instruction in examination of the sick, with particular reference to pulmonary diseases.

By special arrangements, students of the School of Medicine also have access to clinical facilities of the following institutions for instruction in physical diagnosis, medicine, and surgery: Monongalia General Hospital, with a bed capacity of 100; and Vincent Pallotti Hospital, a private general hospital with a bed capacity of 90.

Intramural Clinics. With the cooperation of members of the local medical profession, ambulatory cases are available for examination and demonstration.

Autopsy Service and Pathological Museum. Under an agreement with the coroner of Monongalia County, the Department of Pathology of the School of Medicine performs and records coroner's autopsies. Autopsies are available also for teaching purposes from Vincent Pallotti Hospital, Monongalia General Hospital, and Hopemont Sanitarium. This arrangement materially augments the pathological museum, which already numbers about 1,400 specimens, and affords opportunity for teaching in gross pathology and medical jurisprudence, besides assuring authoritative records for medico-legal purposes.

Buildings and Equipment

The three-story Medical Building furnishes room for most of the School of Medicine. On the first floor are the offices of the Dean, a general lecture room, a reading and study room, and the pharmacological laboratory. On the second floor are laboratories for bacteriology and physiology. On the third floor are laboratories for gross and microscopic anatomy, a large lecture room, and the X-ray room. All departments have appropriate offices, technical rooms, and storage space. Embalming and cadaver storage rooms are in the basement. Quarters for experimental animals are provided in separate buildings.

The biochemical laboratory occupies rooms in the Chemistry Building. The department office is Room 430; communicating with it are three rooms used as stock and preparation rooms and for research.

The Department of Pathology occupies rooms on the second floor of the University Health Center; a good-sized laboratory-lecture room and the necessary rooms for a museum, preparations, storage, offices, and private laboratories.

Library

The Medical Library is not organized as a separate unit but is housed in the University Library, where publications of prime importance to the students and faculty of the School of Medicine are to be found in close proximity to related biological and chemical publications. Purely chemical works, many of which are of interest in medicine, are housed in the Chemistry Building which is adjacent to the Library. Additional current issues of essential medical journals and periodicals of general scientific interest are conveniently available in the students' lounge in the School of Medicine.

There are about 18,000 catalogued volumes in the Library which constitute the medical collection. Roughly half of these are bound volumes of periodicals; the remainder are textbooks and monographs concerned with pre-clinical fields for the most part but comprising also better representative works in internal medicine, surgery, gynecology, obstetrics, public health, hygiene, and history of medicine

Certain other publications are available on bibliofilm, for which reading facilities are offered in the Library and in the Department of Bacteriology. The Library has a subscription list of over 140 leading medical journals. Various departments of the School of Medicine receive a number of special journals, and the Department of Bacteriology has accumulated a collection of over 8,000 papers on anaerobic bacteria in the form of reprints, photostatic copies, and bibliofilm copies.

The Library maintains an inter-library loan system whereby materials not contained in the Library may be borrowed from the Surgeon General's Library, Library of Congress, or other libraries. Complete sets of various abstracting journals, including the Quarterly Cumulative Index Medicus, may be found in the general reading room of the Library. Library service is available to physicians of the state through loans of publications or through the furnishing of photostatic copies of articles.

A committee from the faculty of the School of Medicine is active in the interests of the Medical Library.

Seminar

A seminar is attended by faculty and students of the School of Medicine on alternate Friday afternoons at 4 P.M. The program consists of presentation of various subjects of general interest, followed by discussion. At these meetings papers are presented by members of the faculty, the student body, and members of the medical profession not connected with the School. The papers deal with both preclinical sciences and various phases of the practice of medicine.

Organizations and Lectureships

ALUMNI ASSOCIATION

Graduates of the School of Medicine have a School of Medicine Alumni Association, devoted to the interests of students and graduates and to the encouragement of scientific and professional progress among its members and the medical profession generally.

JOHN NATHAN SIMPSON LECTURESHIP

In 1933 the West Virginia chapter of Phi Beta Pi medical fraternity instituted the John Nathan Simpson Lectureship, honoring Dr. John N. Simpson, first dean of the School of Medicine. An annual lecture is given by someone distinguished in medical research or practice.

ADMISSION REQUIREMENTS

Requirements for admission to the School of Medicine of West Virginia University conform to standards of the Association of American Medical Colleges and the Council on Medical Education and Hospitals of the American Medical Association; however, they exceed the minimum standards of those associations.

All applications for admission are passed upon by the Committee on Admissions of the School of Medicine, composed of four members of the medical faculty. Admission is by recommendation of this committee and with the approval of the Dean of the School.

The number of students that can be accommodated is strictly limited. In recent years the number of applicants has been so great that only residents of West Virginia can be considered, and of these only a small percentage can be admitted. Those admitted are the applicants who, in the judgment of the Committee on Admissions, are best qualified for the study of medicine, and who give highest promise of full service in the practice of medicine. Recently the number of applicants has been so great that the School could not accommodate all who were reasonably well qualified.

Any applicant who is refused admission or who fails to enroll after acceptance, must reapply in the regular manner if he wishes consideration for a subsequent year.

High-School Credits Required

For admission to the School of Medicine the applicant must have credit for at least 15 units of high-school work. This must include four units of English,[1] two of mathematics (algebra, one, and plane geometry, one), and other subjects as specified in the general admission requirements of the University. The School of Medicine strongly urges two units of Latin.

College Credits Required

The applicant must have credit for at least three years in a college of recognized standing. This credit must total at least 90 semester hours exclusive of military and physical education.

The council on Medical Education and Hospitals of the American Medical Association publishes a list of about eight hundred colleges which it approves for premedical education. Medical schools must give preference to applicants from institutions on this list. Schools may accept students from other institutions only when they show evidence of superior ability, as indicated by adequate credits and superior grades. Students planning premedical work should consult the School of Medicine or other authentic source for information about approved colleges.

Credits submitted by applicants for work done elsewhere than in West Virginia University are evaluated by the Registrar of the University and must meet the general standards set by the University for acceptance of credits by transfer.

A. REQUIRED SUBJECTS: The following subjects and hours are *minimum* requirements:

English Composition and Rhetoric ..... 6 hr.

Biological Sciences ..... 15 hr.
Must include General Zoology (preferable)—8 hours or General Biology—8 hours. Comparative Vertebrate Anatomy and, if possible, Vertebrate Embryology. Parasitology and Genetics are suggested electives. Human Anatomy, Physiology, Histology, or Bacteriology are not accepted as part of required hours and are not useful electives.

Chemistry ..... 20 hr.
Must include inorganic chemistry—8 hours; quantitative analysis—3 hours, three hours of either physical chemistry or qualitative analysis, and organic chemistry (aliphatic and aromatic—6 hours). Physiological Chemistry is not acceptable.

Psychology ..... 3 hr.

A Modern Foreign Language ..... 12 hr.
German or French preferred. Must be in one language. Two units in high school are accepted as 6 hours of the requirement.

B. ELECTIVES: Other subjects to make the required 90 hours. In choosing electives, the premedical student should plan to secure a broad education, including adequate work outside the required sciences. Students should avoid courses which are in any sense a duplication or preview of courses given in Medical School. The following are suggested:

Mathematics—College algebra and trigonometry, while not absolute requirements, are looked upon with high favor by the Committee on Admissions. These subjects should be taken in the freshman premedical year because of their great usefulness in the study of physics and chemistry. Analytical geometry and calculus are of advantage to those students who can include them in their program.

[1]Students who present only 3 units of English may satisfy this requirement by making a satisfactory grade on the English Placement Test, or by successfully completing English 0, English Composition.

Latin: Either high school or college Latin is strongly urged. It will be of great value.

Other Desirable Subjects: Art (drawing), botany, economics, geology, Greek, history, speech, political science, and sociology.

Other Items Concerning Eligibility for Admission

Excellence of Premedical Scholarship

The quality of premedical scholarship is the best single criterion of probable success in the study of medicine. For this reason applicants with higher grades are given preference. Students with "average" premedical grades have only a small chance of doing satisfactory work in the School of Medicine even if admitted. An excess of credit hours or higher degrees do little to offset the disadvantage of low grades in securing admission to medical schools.

Medical College Admission Test

The score on this test is used as one criterion of fitness for admission. The test is sponsored by the Association of American Medical Colleges and is given by the Educational Testing Service of Princeton, New Jersey. Tests are announced for May 10 and November 3, 1952. Students should take it in May. Places may be filled before the November scores are available. Students should consult premedical advisers about making application more than a month before the date of this test.

Residence

Preference is given to residents of West Virginia. For several years resident applicants have been so numerous that there have been no places available for nonresidents.

Personal Attributes

Careful consideration is given to those personal qualifications which have a bearing upon fitness of the applicant for the study and practice of medicine. Students must be at least 18 years of age at the time of entrance to the School of Medicine. Persons who have been out of college for some years, or who are several years older than the average applicant, are admitted only when they show unmistakable evidence of superior ability and training. Good health is a necessary qualification.

Previous Failures

Applicants who have been subject to suspension from this or other medical schools can be admitted only in exceptional cases, when the Committee on Admissions considers such readmission justified.

When to Apply for Admission

Application for admission in September 1953 should be made promptly upon completion of the school year 1951-52 (June 1952). Applications will be considered until the class is filled, but early application is very advantageous.

How to Apply for Admission

Application for admission must be made upon blanks which may be obtained from the Dean's office upon request. A small unmounted photograph must accompany the application. The completed applications should be returned promptly to the School of Medicine.

Credentials

Unless the applicant is a student at West Virginia University, he must ask the registrar of each college he has attended to send, directly to the School of Medicine, an official transcript of his work. (The University cannot accept transcripts sent by the applicant himself.) Records should include a statement of work in progress. Work subsequently completed should be promptly reported to the School of Medicine

Recommendations

Applicants who are not students at West Virginia University should request the premedical adviser or, if there is none, two instructors in different science departments to send letters of recommendations to the School of Medicine.

Notification of Applicants

All applicants will be informed of the action of the Committee on Admissions as promptly as possible after decisions are reached. The earliest acceptances will probably be issued in November or December.

Premedical Curriculum at West Virginia University

In keping with the need for good premedical training, West Virginia University, through its premedical adviser, maintains careful supervision over those students who have declared their intention of preparing for the study of medicine. It is not the policy of West Virginia University to give special premedical courses but rather to maintain a well-balanced curriculum composed of courses regularly scheduled in various departmental offerings.

This curriculum does not involve extensive speialization in any subject. There are no majors and minors. High specialization in one subject probably is not the best preparation for the average student. The curriculum includes as requirements those subjects which are needed for entrance to medical schools, but it also allows wide latitude in choice of electives in other departments so that the student may gain some insight into the various fields of knowledge in which all educated persons should be versed.

Departure from Scheduled Work

Students must register for all prescribed courses for each semester except by special permission from the Scholarship Committee of the School of Medicine. This permission is not valid until it has been reported to the Registrar for record.

Immunizations

The School of Medicine requires that during the first semester of the first year all medical students must complete certain prescribed immunizations and diagnostic procedures. These are administered without charge by the University Health Service.

Withdrawals

A student who wishes to withdraw during the semester should do so in regular manner. Consult the Dean's office for steps which must be taken.

Promotions and Suspensions

The Committee on Scholarship of the School of Medicine is responsible for administration of the following rules. Exceptions may be made only on recommendation of this Committee. The application of rules on suspension is not automatically changed by removal of "I" grades or by the repetition of courses in other medical schools. Permission for repetition of work in this medical school may be granted only by the Scholarship Committee.

1. Students must register for all courses scheduled for each semester.
2. A student who does not make passing grades in at least half of the registration hours in any semester is automatically suspended (University rule).
3. A student who during any two consecutive semesters does not attain a grade-point average of 1.5 for all courses for which he is registered, is thereby automatically suspended even though he may pass in all courses.

4. No student will be permitted to register for work of the second year until all courses for the first year have been successfully completed.

DEGREES

The School of Medicine gives no degree in medicine except in cooperation with the Medical College of Virginia, as noted on page 9.

Upon completion of the second year in the School of Medicine, students receive the *Bachelor of Science* Degree. At the end of the first year, those students who have met certain requirements of the College of Arts and Sciences in West Virginia University receive the *Bachelor of Arts* Degree.

Proficiency in English. The University Senate has recommended that each school and college of the University offering the baccalaureate degree adopt the following requirement:

"Each undergraduate must pass a proficiency examination in English after the beginning of his junior year in order to qualify for graduation. He shall take this examination during the first semester of his junior year, and if not declared proficient, shall repeat the examination as many times as necessary."

The School of Medicine has adopted this requirement. This applies to those students in Medicine and Medical Technology who have not previously satisfied this requirement. These students must take this examination during their first semester of registration in the Medical School.

This examination will be given by an English Proficiency Board named by the President of the University.

The *Master of Science* Degree is offered by certain departments of the School of Medicine. Properly qualified University graduate students are eligible. Medical students may work toward this degree by study during four summer terms (two full summers.) For fuller information consult the Chairman of the Committee on Graduate Studies in the School of Medicine or see the *Announcements of the Graduate School.*

Only a small number of graduate students can be accommodated in departments of the School of Medicine. Admission to the Graduate School of West Virginia University does not of itself assure permission to take courses in departments of the School of Medicine. Persons wishing to take any courses in the School of Medicine for graduate credit should consult the Chairman of Graduate Study in the School of Medicine and the department concerned well in advance of registration day.

THE STANDING COMMITTEES

Executive: E. J. Van Liere *(chairman)*, F. R. Whittlesey, and C. B. Pride.

Admissions and Scholarship: S. B. Chandler *(chairman)*, C. K. Sleeth, M. L. Hobbs, and R. F. Krause.

Library: S. B. Chandler *(chairman)*, J. C. Stickney, C. K. Sleeth, M. O. Coover, and J. T. Hicks.

Research, Fellowships, and Grants: D. F. Marsh *(chairman)*, D. W. Northup, M. L. Hobbs, J. M. Slack, and E. J. Van Liere.

Seminars: C. K. Sleeth *(chairman)*, J. C. Stickney, E. J. Van Liere, and E. H. Ludwig.

Clinical and Special Facilities: C. K. Sleeth *(chairman)*, C. B. Pride, M. L. Hobbs, G. R. Maxwell, F .R. Whittlesey, and J. J. Lawless.

Curriculum: C. K. Sleeth *(chairman)*, E. H. Ludwig, E. J. Van Liere, and D. F. Marsh.

Student Loans and Scholarships: J. C. Stickney *(chairman)*, E. J. Van Liere, T. W. Williams, J. B. Hyde, and J. T. Hicks.

Medical Technology: M. L. Hobbs *(chairman)*, E. H. Ludwig, R. F. Krause, and E. J. Van Liere.

Policy: Heads of departments and the director of the University Health Service.

Graduate Study: J. M. Slack *(chairman)*, D. F. Marsh, J. C. Stickney, and R. F. Krause.

Social: J. C. Stickney *(chairman)*, J. B. Hyde, E. H. Ludwig, C. R. Ball, and M. O. Coover.

SCHEDULE OF COURSES FOR 1952-53

Course	Hr. per Week			Hr. per Semester			Semester Credit Hours'
	Lect	Lab.	Total	Lect	Lab.	Total	
FIRST YEAR — FIRST SEMESTER							
Gross Anatomy 201	2	8	10	32	128	160	6
Histology 205	3	9	12	48	144	192	6
Medical Biochemistry 231	4	9	13	64	144	208	7
FIRST YEAR — SECOND SEMESTER							
Gross Anatomy 202	2	6	8	32	96	128	4
Neuroanatomy 203	2	6	8	32	96	128	4
Embryology 206	2	0	2	32	0	32	2
Medical Bacteriology 221	3	9	12	48	144	192	6
Physiology 242	2	3	5	32	48	80	3
SECOND YEAR — FIRST SEMESTER							
Hygiene 222	2	0	2	32	0	32	2
Physiology 243	5	6	11	80	96	176	7
Gen. and Tumor Pathology 251	5	9	14	80	144	224	7
Pharmacodynamics 262	3	0	3	48	0	48	3
Physical Diagnosis 271	1	0	1	16	0	16	*
Introductory Medicine 272	0	2	2	0	32	32	*
Psychobiology 273	1	0	1	16	0	16	1
Biostatistics 274	1	0	1	16	0	16	1
SECOND YEAR — SECOND SEMESTER, FIRST HALF							
Applied Anatomy 204	2	4	6	16	32	48	2†
Special Pathology 252	1	2	3	8	16	24	§
Clinical Pathology 254	2	4	6	16	32	48	§
Medical Pharmacology 263	4	6	10	32	48	80	§
Physical Diagnosis 271	1	2	3	8	16	24	§
Introductory Medicine 272	2	0	2	16	0	16	§
History of Medicine 275	1	0	1	8	0	8	0
Surgery, Principles of 281	2	0	2	16	0	16	§
Obstetrics 291	2	0	2	16	0	16	§
SECOND YEAR — SECOND SEMESTER, SECOND HALF							
Special Pathology 252	2	2	4	16	16	32	2
Clinical Pathology 254	3	7	10	24	56	80	3
Medical Pharmacology 263	3	3	6	24	24	48	4
Clinical Anesthesiology 264	1	0	1	8	0	8	0
Physical Diagnosis 271	2	2	4	16	16	32	3
Introductory Medicine 272	2	2	4	16	16	32	3
History of Medicine 275	1	0	1	4	0	4	0
Surgery, Principles of 281	2	2	4	16	16	32	2
Obstetrics 291	2	0	2	16	0	16	2

*Course continues throughout the year.
†Course completed at mid-semester.
§Course continues throughout the semester.

DAY AND HOUR SCHEDULE

FIRST YEAR—FIRST SEMESTER

	8	9	10	11	12	1	2	3	4	5
M	Biochemistry						Histology			
T	Gross Anatomy						Histology			
W	Biochemistry						Gross Anatomy			
Th	Gross Anatomy			Biochem.			Histology			
F	Biochemistry						Histology			

FIRST YEAR—SECOND SEMESTER

	8	9	10	11	12	1	2	3	4	5
M	Neuroanatomy						Bacteriology			
T	Emby.	G. Anatomy		Neuro.			Physiology			
W	Neuroanatomy			Physiol.			Bacteriology			
Th	Emby.	G. Anatomy					Bacteriology			
F	Gross Anatomy			Physiol.			Bacteriology			

SECOND YEAR—FIRST SEMESTER

	8	9	10	11	12	1	2	3	4	5
M	Pharm.	Physiol.	Medicine				Pathology			
T	Pathology			Physiol.			Physiology			
W	Pathology		Hygiene	Physiol.			Pathology			
Th	Pharm.	Physiol.	Biostat.	Psychobiol.			Physiology			
F	Pharm.	Phys. Diag	Hygiene	Physiol.			Pathology			

SECOND YEAR—SECOND SEMESTER, FIRST HALF

	8	9	10	11	12	1	2	3	4	5
M	Pharm.	Obstetrics	Cl. Path.	Phys. Diag.			Pharmacology			
T	Pharm.	Medicine	Hist. Med.	Surgery			Applied Anatomy			
W	Medicine	Pharm.	Clinical Pathology				Pharmacology			
Th	Pharm.	Cl. Path.	Obstet.	Surgery			Applied Anatomy			
F	Physical Diagnosis		Clinical Pathology				Pathology			

SECOND YEAR—SECOND SEMESTER, SECOND HALF

	8	9	10	11	12	1	2	3	4	5
M	Medicine or Surgery		Cl. Path.	Obstet.			Pathology	Hist. Med.	Anesth.	
T	Medicine or Surgery		Pharm.	Surgery			Clinical Pathology			
W	Medicine	Phys. Diag.	Pathology				Pharmacology			
Th	Medicine	Phys. Diag	Pharm.	Surgery			Clinical Pathology			
F	Physical Diagnosis		Pharm.	Obstet.			Clinical Pathology			

COURSES OF INSTRUCTION

NOTE—Courses marked "*" are required of first-year students; those marked "†" are required of second-year students.

In addition to required courses there are listed some elective courses for the benefit of other University students who may need them. They are given only when, in the opinion of the department concerned and of the Dean, it is considered advisable. If there should arise a demand for any of these courses, the School of Medicine will try to meet the need, but the schedule will be contingent upon the extent to which staff members are occupied with the required medical courses. For full information see *Announcements of the Graduate School.*

ANATOMY

Professor CHANDLER; Associate Professor WILLIAMS; Instructors HYDE and BALL.

201.* GROSS ANATOMY. I. 6 hr. PR: Zoology 2, Zoology 231 (Comp. Anatomy) desirable. Lecture, 2 hr. per week; lab., 8 hr.

202.* GROSS ANATOMY. II. 4 hr. PR: Anatomy 201. Continuation of Anatomy 201. Lecture, 2 hr. per week; lab., 6 hr.

203.* NEUROANATOMY. II. 4 hr. PR: Histology 205; Anatomy 201. Lecture, 2 hr. per week; lab., 6 hr.

204.† APPLIED ANATOMY. II. 2 hr. PR: Anatomy 201, 202, 203, and Embryology 206. Lecture, 2 hr. per week; lab., 4 hr. during first half of semester.

205.* HISTOLOGY. I. 6 hr. PR: Zoology 1, 2 or acceptable substitute. Histological structure and elementary embryology of tissues and organs. Lecture, 3 hr. per week; lab., 9 hr.

206*. HUMAN EMBRYOLOGY. II. 2 hr. PR: Histology 205 and Anatomy 201 (Human Anatomy). Comprehensive survey of human development in relation to gross and microscopic structure. Lecture, 2 hr. per week.

211. ANATOMY OF THE SYMPATHETIC NERVOUS SYSTEM. I or II. 2-5 hr. Hours to be arranged. Open to properly qualified students.

212. APPLIED ANATOMY OF THE PELVIS AND PERINEUM. I or II. 2-5 hr. Hours to be arranged. Open to properly qualified students.

213. SPECIAL PROBLEMS IN VASCULARIZATION. I or II. 2-5 hr. PR: Histology 205 or its equivalent. The analysis of vascular beds and their relation to tissues and organs. Laboratory. Hours to be arranged.

214. ADVANCED HISTOLOGY. I or II. 2-5 hr. PR: Histology 205 or equivalent. Special problems in microscopic anatomy. Hours to be arranged.

215. ADVANCED EMBRYOLOGY. I or II. 2-5 hr. Topics to be chosen to meet special needs of students. Hours to be arranged. Open to properly qualified students.

301. ADVANCED ANATOMY. I or II. 2-5 hr. Hours to be arranged. Open to properly qualified students.

311. RESEARCH IN MICROSCOPIC OR DEVELOPMENTAL ANATOMY. I or II or Yr. 2-5 hr. Hours to be arranged. Open to properly qualified students.

BACTERIOLOGY AND PUBLIC HYGIENE

Professor Slack; Assistant Professor Ludwig; Instructor Canby; Lecturer Kennedy; Assistant Berardinelle

220. Pathogenic Bacteriology. I, S. 5 hr. PR or Conc.: Chemistry 131 (Organic Chemistry). For students in Medical Technology and Pharmacy. Detailed study of microorganisms with emphasis on those causing human diseases. Lecture, 2 hr per week; lab., 8 hr. Graduate students required to do 1 hr. additional work per week for 5 hr. credit.

221.* Medical Bacteriology. II. 6 hr. PR or Conc.: Chemistry 233, 238 (Organic Chemistry), Biochemistry 231 desirable. Detailed study of pathogenic microorganisms, including morphology, physiology, identification and mechanisms of disease production, as well as response of the body to bacterial diseases. Lecture, 3 hr. per week; lab., 9 hr.

222.* Public Hygiene. I. 2 hr. PR: Consent of instructor. Introduction into the principles of public health. Lecture 2 hr. per week.

224. Diagnostic Bacteriology. I, II, S. 3 hr. Hours to be arranged. PR: Bacteriology 221 or equivalent. Application of cultural, serological and animal methods as aids to the diagnosis of human diseases.

226, 227. Special Problems in Bacteriology. I, II, S. 2-5 hr. per semester. Hours to be arranged. PR: Bacteriology 221 or equivalent.

320, 321. Advanced Bacteriology. I, II, S. 2-5 hr. per semester. Hours to be arranged. PR: Bacteriology 221 or equivalent. Advanced theoretical and practical studies in the fields of bacterial physiology, immunology, fungi, rickettsia, and viruses. Graduate students only.

323, 324, 325, 326. Research in Bacteriology. I, II, S. 1-6 hr. per semester. Hours to be arranged. PR: Bacteriology 221, 320 or equivalent.

BIOCHEMISTRY

Professor Krause; Assistant Professor Coover; Assistants Powell and Humphries

139. General Biochemistry. II. 4 hr. PR: Inorganic and organic chemistry. Quantitative analysis desirable. For students in Home Economics and Medical Technloogy. Open to other qualified students.

230. Applied Biochemistry. S. 2 hr. PR: Inorganic and organic chemistry. Primarily for high-school teachers. Not for graduate chemistry majors. An introduction to some of the practical chemical reactions which are carried out by living organisms with special reference to man.

231.* Medical Biochemistry. I. 7 hr. PR: Chemistry 233, 238 (Organic Chemistry). Lecture, 4 hr. per week; lab., 9 hr.

237. Seminar in Biochemistry. Yr. 2 hr. PR or Conc.: Biochemistry 231. Presentation and discussion of special topics.

330, 331. Biochemical Preparations. I, II, S. 2-5 hr. Arranged. PR: Biochemistry 231 or equivalent. Emphasis on biochemical methods.

333, 334, 335, 336. Research in Biochemistry. I, II, S. 1-6 hr. Arranged. PR: Biochemistry 231 or equivalent.

HISTORY OF MEDICINE

Professor CHANDLER

275.† HISTORY OF MEDICINE. II. No Credit. A brief history of the development of the science and art of medicine. Lecture, 2 hr. per week.

MEDICINE

Associate Professors SLEETH and LAWLESS; Assistant Professors MAXWELL, WHITTLESEY, and STARKEY; Instructor JOHNSON.

271.† PHYSICAL DIAGNOSIS. Yr. 3 hr. Lecture, 1 hr. per week during first semester; lecture, 1 hr. per week, lab., 2 hr. during first half of second semester; lecture, 2 hr. per week, practical work with patients, 2 hr. during second half of second semester. Hospital clerkship at Hopemont Sanitarium, 1 week.

272.† INTRODUCTORY MEDICINE. Yr. 3 hr. Medical clinic—demonstration of clinical cases, 2 hr. per week during first semester; lecture, 2 hr. per week during first half of second semester; lecture, 2 hr. demonstration of clinical cases, 2 hr. per week during second half of second semester. Hospital clerkship at Hopemont Sanitarium, 1 week.

273.† PSYCHOBIOLOGY. I. 1 hr. Introduction to the study of human personality, normal and abnormal. Lecture, 1 hr. per week.

274.† BIOSTATISTICS. I. 1 hr. Planned to aid in the understanding of the statistical methods commonly used in medical and biological work, and in the evaluation of experimental data in these fields. Lecture, 1 hr. per week.

OBSTETRICS

Professor VAN LIERE

291.† OBSTETRICS. I. 2 hr. PR: Anatomy 201, 202 (Human anatomy), Physiology 242, 243, and Pathology 251. An introductory course in obstetrics. Lecture, 2 hr. per week.

PATHOLOGY

Professor HOBBS; Assistant Professor HICKS; Instructor EHRGOTT; Assistant BONNER; Teaching Assistant ARMAGHAN

151. CLINICAL LABORATORY DIAGNOSTIC METHODS. II. 4 hr. Study of blood, exudates, transudates, gastric contents, urine, etc. Lecture, 2 hr. per week; lab., 6 hr. Required of students in Medical Technology. Other students as approved by department.

251.† GENERAL AND TUMOR PATHOLOGY. I. 7 hr. PR. approval of department head. Includes both gross and microsopic studies with demonstrations. Lectures, 4 hr. per week; lab., 10 hr.

252.† SPECIAL PATHOLOGY. II. 2 hr. PR: approval of department head. A study of special diseases with gross and microscopic specimens from selected autopsies. Lecture, 1 hr., lab., 2 hr. per week during first half of semester; lecture, 2 hr. per week, lab., 2 hr. during second half of semester.

254.† CLINICAL PATHOLOGY. II. 3 hr. PR: approval of department head. A labortory course in blood, gastric contents, urine, etc., and their pathological and clinical significance. Lecture, 2 hr. per week, lab., 4 hr. during first half of semester; lecture, 3 hr. per week, lab., 7 hr. during second half of semester.

256. Advanced Pathology. I or II. 3 hr. PR: Pathology 251. Microscopic and gross specimens from selected autopsies. Open to properly qualified students.

351. Experimental Pathology. I or II. 2-5 hr. Hours to be arranged. Open to properly qualified students.

PHARMACOLOGY

Professor Marsh; Instructor Herring; Lecturer Tucker

160. Fundamentals of Pharmacology. II. 1 hr. PR or conc.: Physiology 141. For students in the College of Pharmacy. Lecture 1 hour per week.

161. Practical Pharmacology. I. 4 hr. PR: Pharmacology 160. For students in the College of Pharmacy. Lecture 3 hours per week; lab., 3 hours.

262.† Pharmacodynamics. I. 3 hr. PR: Physiology 141 or 242. Lecture, 3 hr. per week. The mechanism of action of drugs on living things. The fundamental relationships between drugs and drug action.

263.† Medical Pharmacology. II. 4 hr. PR: Pharmacology 262. Lecture, 4 hr. per week, lab., 6 hr. first half of semester; lecture, 3 hr. per week, lab., 3 hr. second half of semester. The action of drugs commonly used clinically for man and animals.

264.† Clinical Anesthesiology. II. No credit. PR: registration in Pharmacology 263. 1 hr. per week second half of semester. Practical demonstrations of anesthesia.

266. Biochemorphology. II. 2 hr. PR: Pharmacology 262, or Chemistry 238 or 277. Relation between chemical constitution and physiological action of medical agents. Lecture.

360, 361. Bioassay and Comparative Pharmacology. I, II, S. 3 hr. per semester. PR: Pharmacology 262; or Chemistry 238 or 277 and Histology 205; or Pharmacy 110. Cellular pharmacodynamics and comparative mammalian pharmacology. Species differences in response to drugs. Development of technique in bioassays employed for control by the pharmaceutical industry.

362, 363. Advanced Pharmacology. I, II, S. 2-5 hr. per semester. Hours to be arranged. PR: Pharmacology 360. Rational investigation of new drugs and comparison with presently used clinic drugs.

364. Toxicology. I, II, S. 1 hr. PR: graduate status in pharmacology or chemistry. Toxic effects of industrial chemicals and drugs. Allowable concentrations in industry, and antidotal measures.

365. Anesthesiology. I, II, S. 3 hr. PR: Physiology 243. Production of surgical anesthesia in man. General anesthetic agents and procedures, additional agents for proper control of anesthesia, and care of the anesthetized individual.

366, 367, 368, 369. Research in Pharmacology. I, II, S. 1-6 hr. per semester. PR: graduate status in physiology, chemistry, or agriculture. Determination of biological activity or toxicity of chemicals that may be used for drugs, solvents, insecticides, or poisons.

PHYSIOLOGY

Professors Northup and Van Liere; Associate Professor Stickney; Assistant Edwards

141. Elementary Physiology. II. 4 hr. PR: Biology 1, 2 or Zoology 1, 2, Chemistry

131 (Organic Chemistry) (or Conc.) For students in Pharmacy and Medical Technology. Lecture, 3 hr. per week; lab., 3 hr.

242.* Physiology. II. 3 hr. PR: Zoology 231 (Comparative Anatomy), Biochemistry 231. Physiology of muscle and nervous system. Lecture, 2 hr. per week; lab., 3 hr.

243.† Physiology. I. 7 hr. PR: same as for Physiology 242. Physiology of circulation, respiration, digestion, metabolism, secretion, endocrines, special senses. Lecture, 5 hr. per week; lab., 6 hr.

244, 245. Special Topics. Yr. 2-5 hr. PR: Physiology 242 or 243.

246. Seminar in Physiology. No credit.

340, 341. Advanced Physiology of Circulation and Respiration. Yr. 2-5 hr. Hours to be arranged. PR: Physiology 243. Historical review, advanced topics and latest developments in the physiology of circulation and respiration.

342. Physiology of Gastro-intestinal System. II. 2-5 hr. Hours to be arranged. PR: Physiology 243. Historical review, advanced topics and latest developments in the physiology of the digestive tract.

343, 344. Nervous Physiology and Special Senses. Yr. 2-4 hr. Hours to be arranged. PR: Physiology 242 and 243, Psychology 1 or Neuroanatomy 203. Historical review, advanced topics and latest developments in the physiology of the nervous system and the organs of special sense.

345. Endocrinology. I. 2-5 hr. Hours to be arranged. PR: Physiology 243. Historical review, advanced topics and latest developments in physiology of the endocrines.

346, 347, 348, 349. Research in Physiology. Yr. 1-6 hr.

SURGERY

Associate Professor C. B. Pride; Instructor M. Pride

281.† Principles of Surgery. II. 2 hr. Lecture, 2 hr. per week during the first half of semester; lecture, 2 hr. per week during second half of semester, demonstrations of clinical cases and operative technique, 2 hr.

II. Curriculm in Medical Technology

GENERAL INFORMATION

The curriculum in Medical Technology leads to the degree of Bachelor of Science (Medical Technology). This curriculum prepares students to serve as technicians in hospitals, clinics, research laboratories, etc., and in offices of private physicians.

Training standards for laboratory technicians are under general supervision of the Council on Medical Education and Hospitals of the American Medical Association, which inspects, evaluates, and approves schools. This School is included in the list of those approved by the American Medical Association. In this field, properly qualified persons, upon passing the required examinations, may be certified by the Board of Registry of Medical Technologists of the American Society of Clinical Pathologists.

During the first two years the student is registered in the College of Arts and Sciences and is under supervision of the premedical adviser. These two years are considered as preliminary training.

The third and fourth years include specialized and technical training of the curriculum. During these years the student is under jurisdiction of the School of Medicine. These students are not to be regarded, however, as medical students, nor can any course taken during these years be counted toward the M.D. Degree.

Work of the last year is largely individual in nature, carried on in laboratories and hospitals. The students are considered as temporary members of the laboratory staff and are subject to usual regulations and discipline of the regular staff. This work occupies one entire calendar year of twelve months.

Committee on Medical Technology

M. L. Hobbs (Professor of Pathology and Clinical Pathology), *Chairman.*
R. F. Krause (Professor of Biochemistry).
E. H. Ludwig (Assistant Professor of Bacteriology).
E. J. Van Liere (Dean of Medical School).

ADMISSION REQUIREMENTS

(a) Admission requirements for the first year (pretechnology) are the same as for the College of Arts and Sciences, namely, 15 units of high-school work, including subjects specified in the University *Catalog.* One unit of elementary plane geometry is very desirable.

(b) For admission to the third year, students must complete the first two years of the curriculum outlined below in West Virginia University, or an equivalent program in other institutions of recognized standing.

(c) Only a limited number of students can be accommodated in the third and fourth years. Preference is given to residents of West Virginia. Application should be made on forms obtainable from the School of Medicine and must be presented at the office of the Dean of the School. Applications should be made in February and will be considered after April 1. Admission is on recommendation of the Committee on Medical Technology and with approval of the Dean of the School of Medicine.

Immunizations

The School of Medicine requires that during the first semester of the first year all students in Medical Technology must complete certain prescribed immunizations and diagnostic procedures. These are administered without charge by the University Health Service.

FEES

For the first two years students pay the regular fees for students in the College of Arts and Sciences. In the last two years, while students are under the jurisdiction of the School of Medicine, there is an additional tuition fee of $25 per semester. For the summer term of the fourth year the fee is $5 for residents and $7 for nonresidents. There is a breakage deposit of $10 per year. The Graduation Fee of $10 is due at the beginning of the last semester. Students not registered in the School of Medicine or the College of Pharmacy pay $4 per semester hour for courses given by the medical school faculty, in addition to the regular fee for the college in which they are registered.

STANDARDS OF SCHOLARSHIP

The administration of scholarship standards is in charge of the Committee on Medical Technology. The following rules apply:

A student who does not make passing grades in at least half of the registration hours during any semester is automatically suspended. (General University rule.)

Eligibility to begin work of the fourth year is contingent upon the demonstration of personal aptitude for this work and upon full completion of the curriculum of the third year with a grade-point average of 1.5 per registration hour.

REQUIREMENTS FOR THE DEGREE

The degree, Bachelor of Science (Medical Technology), will be given upon completion of the curriculum outlined below.

THE CURRICULUM

During the first two years the student is registered in the College of Arts and Sciences.

FIRST YEAR (PRETECHNOLOGY)

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Inorganic chemistry 1	4	Inorganic chemistry 2	4
General zoology 1	4	General zoology 2	4
English composition 1	3	English composition 2	3
Modern foreign language	3	Modern foreign language	3
Electives	2	Electives	2
Physical education	1	Physical Education	1

SECOND YEAR (PRETECHNOLOGY)

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Qualitative analysis 5	4	Quantitative analysis 15	3
English literature	3	English literature	3
Modern foreign language	3	Modern foreign language	3
General physics 1, 3	4	General physics 2, 4	4
Electives	2	Electives	2
Physical education	1	Physical education	1

NOTE: In addition to the courses listed above, male students must take military or air science to meet University requirements.

THIRD YEAR

During the third and fourth years the student is under the jurisdiction of the School of Medicine. This part of the curriculum is open only to students approved by the Committee on Medical Technology.

During this year, students must take the University examination to test proficiency in English, unless this requirement has been satisfied previously.

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Pathogenic bacteriology 220	5	Elementary physiology 141	4
Organic chemistry 131	4	General biochemistry 139	4
Comparative anatomy 231	5	Parasitology 255	4
Electives	3	Clinical laboratory diagnostic methods 151	4

FOURTH YEAR

Work of the fourth year consists of practical experience under careful supervision in laboratories and hospitals. At present this training is given in the Department of Pathology of West Virginia University, the State Hygiene Laboratory, the Charleston General Hospital, and Fairmont General Hospital. The work covers the subjects listed below although these separate fields of training cannot be given in sequence as separate courses. This work continues throughout

an entire calendar year. Students register in the University for a Summer Session (about 15 weeks) in addition to two regular semesters.

The professional courses required of fourth-year students follow:

100. Laboratory Practices. Summer term. 1 hr. Based upon the experience of the initial summer of the fourth year.

101. Applied Bacteriology. Yr. 4 hr. Methods of sterilization, preparation of culture media and vaccines, staining and study of bacteria, etc.

102. Applied Parasitology. Yr. 2 hr. Examination of feces for parasites and ova and of blood smears for parasites of the blood.

103. Applied Serology. Yr. 4 hr. Agglutination, precipitation, and complement fixation tests in serodiagnosis of syphilis and other diseases.

104. Clinical Chemistry. Yr. 3 hr. Chemical examination of urine, blood, gastric contents, and spinal fluid for abnormal constituents and increased or decreased amounts of normal constituents.

105. Electrocardiography. Yr. 2 hr. Study of the electrocardiographic machine and its practical employment on patients.

106. Metabolimetry. Yr. 2 hr. Study of the metabolism of carbohydrates, proteins, fats, minerals, etc., and the technique of basal metabolism.

107. Microtechnique. Yr. 3 hr. Histological technique including paraffin, celloidin, and frozen sections with routine and special straining procedures.

108. Normal Hematology. Yr. 4 hr. Methods of obtaining blood, hemoglobin determinations, enumeration of erythrocytes, leucocytes, and blood platelets; study of stained blood films, etc.

109. Special Hematology. Yr. 3 hr. Study of blood dyscrasias, hemorrhagic diseases, blood groups, etc.,

110. Record Keeping. Yr. 2 hr. Study of laboratory and hospital forms with proper methods of recording findings and filing laboratory reports.

111. Urine Analysis. Yr. 5 hr. Clinical examination of normal and abnormal urines including general characteristics, qualitative and quantitative chemical analyses, microscopic studies, renal-function tests, etc.

The Division of Military and Air Science and Tactics

Professors Roth and Harcos; Assistant Professors Benard, Moore, Hopper, McVay, Schiavoni, Brenneman, Brown, Galloway, Lamb, Neumeister, Nicholas, Royal, Reese, Waymire, and Whitlock.

BASIC—FIRST YEAR

1. Military Science 1. 2 hr. 3 hr. per week. Military organization, military policy of United States, evolution of warfare, maps and aerial photographs, individual weapons and marksmanship, first aid and hygiene, military problems of United States and leadership, drill and exercise of command.

2. Air Science I. 2 hr. 3 hr. per week. World political geography and command and leadership exercises.

3. Military Science 2. 2 hr. 3 hr. per week. Continuation of subjects taught during first semester.

4. Air Science 2. 2 hr. 3 hr. per week. Continuation of subjects taught during first semester.

BASIC—SECOND YEAR

1. Military Science 3 (Engineers). 2 hr. 3 hr. per week. History and traditions of the Corps of Engineers, camouflage, defense against chemicals, explosives and demolitions, hand tools and rigging, mines and booby traps, individual weapons, organization and tactics of small units, and organization of the ground and field fortifications, and leadership, drill and exercise of command.

2. Military Science 3 (Infantry). 2 hr. 3 hr. per week. Organization, weapons, marksmanship, technique of fire of rifle squad, combat formations, scouting and patrolling, tactics of the rifle squad, and leadership, drill and exercise of command.

3. Military Science 3 (Signal). 2 hr. 3 hr. per week. Introduction to signal communications, organization and mission of the Signal Corps, organization and signal communications practices of infantry, armored, and airborne divisions, and leadership, drill and exercise of command.

4. Air Science 3. 2 hr. 3 hr. per week. Organization for the defense of the United States; maps, aerial photographs, and aerial navigation; aerodynamics and propulsion; meterology and navigation; applied air power; personal maintenance; leadership, drill and exercise of command.

5. Military Science 4. 2 hr. 3 hr. per week. Continuation of subjects taught during first semester for branch.

6. Air Science 4. 2 hr. 3 hr. per week. Continuation of subjects taught during first semester.

ADVANCED—THIRD YEAR

1. Military Science 103 (Engineers). 3 hr. 5 hr. per week. Bridge design and classification, engineer signal communications, engineer combat intelligence, engineer supply, military roads and runways, organization of engineer units,

organization of combat divisions, tactics of engineer units, vehicle operation and maintenance, water supply, and individual weapons and marksmanship, leadership, drill and exercise of command.

2. Military Science 105 (Infantry). 3 hr. 5 hr. per week. Organization, weapons, gunnery, communications, combat intelligence, tactics of rifle and heavy weapons, platoons and companies, estimate of situation and combat orders and field fortifications, leadership, drill and exercise of command.

3. Military Science 105 (Signal). 3 hr. 5 hr. per week. Communications security, signal orders, field wire communication fundamentals, field radio communication, applied signal communications, message center and communication center procedure, signal supply and repair, career guidance program for Signal Corps officers, weapons and marksmanship, and leadership, drill and exercise of command.

4. Air Science 105
Field Specialization:
Administration and Logistics. Motor transportation; individual records; correspondence; squadron supply; methods of obtaining supplies; receipt, issue and turn-in of supplies; property accounting, and stock control.
Aircraft Maintenance Engineering. Fuel and induction systems; oil systems; military publications; administration; elementary Air Force supply procedures; air operations; the maintenance mission; recriprocating engines and jet propulsion engines.
Flight Operations. Major commands of the USAF; principles of flight; aircraft maintenance engineering; introduction to instruments; air navigation, and meterology.

5. Air Science 106
Field Specialization:
Administration and Logistics. Property accounting and stock control; storage of supplies; disposal of property; supply problems; air transportation; commercial transportation; pay and allowances; organizational records; special administrative responsibilities; air force publications; non-appropriated funds.
Aircraft Maintenance Engineering. Compound engines; propellors; electrical systems; structure and component parts; hydralic systems; instruments; miscellaneous equipment and system.
Flight Operations. Continuation of subject taught during first semester.

ADVANCED—FOURTH YEAR

1. Military Science 107 (Engineers, Infantry, Signal). 3 hr. 5 hr. per week. Military administration, military law and boards, military teaching methods, psychological warfare, geographical foundations of national power, and leadershop, drill and exercise of command.

2. Military Science 107 (Engineers). 3 hr. 5 hr. per week. Engineer support for the Air Force, engineer support for the communication zone, engineer support for the field type army, command and staff, construction, utilities, and job management, motor movements, and river crossing operations.

3. Military Science 107 (Infantry). 3 hr. 5 hr. per week. Organization, command and staff, communications, motors and transportation, supply and evacuation, troop movements, new developments, the military team, and tactics—infantry battalion in attack and defense.

4. Military Science 107 (Signal). 3 hr. 5 hr. per week. Wire communication-materiel, radio communication-materiel, higher echelon signal communication and equipment, post signal operations and administrative procedure, career guidance plan for Signal Corps officers, darkroom technique and photographic practices, command and staff, and combat intelligence.

5. Air Science 107
Field Specialization:
Administration and Logistics. Career development; AF inspection system; AF management; military teaching methods; military law and boards; food service; purpose and basic function of the staff.
Aircraft Maintenance and Engineering. Career development; Air Force inspection system; AF management; military methods; military administration; military law and boards.
Flight Operations. Curriculum will be published at a later date.

6. Military Science 108 (Engineers, Infantry, and Signal). 3 hr. 5 hr. per week. Continuation of subjects taught during the first semester.

7. Air Science 108
Field Specialization:
Administration and Logistics. Purpose and basic function of the staff; administration, function, and analysis.
Aircraft Maintenance Engineering. Ground service equipment; Air Force supply; A/C inspection system; organizational maintenance; field maintenance; A/C engine operation and conditioning; cruise control, air inspection system, and test flight.
Flight Operations. Curriculum will be published at a later date.

The School of Music

GENERAL INFORMATION

THE SCHOOL OF MUSIC

The School of Music of West Virginia University is a member of the National Association of Schools of Music. The requirements for entrance and for graduation as set forth in this bulletin are in accordance with the published regulations of that organization.

A new and completely modern School of Music building is under construction. It is expected to be ready for occupancy in late 1953.

Present equipment consists of thirty upright pianos, eleven grand pianos, an electric organ, a two-manual practice organ, a four-rank unit electric pipe organ, a three-manual pipe organ in Reynolds Hall, and a large collection of band and orchestral instruments.

Student Concerts

Students giving satisfactory performances appear in recital. The object is to afford opportunity for the students to apply in public the proficiency that has been developed in the studio.

All music students are required to attend regular student recitals, to take part in them whenever so assigned, and to attend all concerts given under the auspices of the University. They are expected to identify themselves with various organizations of the School and are required to enter any to which they are assigned by the Director.

Students in the School of Music are not allowed to take part in public programs or to join musical organizations without the consent of their respective instructors and the Director of the School.

Special Students

Mature students who do not meet entrance requirements fully but are qualified to pursue courses in music successfully, may, with the approval of the Committee on Admissions, be permitted to register in the School of Music as special students.

Committees

Scholarship: Messrs. Hart, Wood, Brown, McGregor, and Miss Hinkel.
Concerts and Recitals: Mrs. McEnney and Messrs. Hart, Manning, Wood, and McGregor.

The Undergraduate Degree

The Bachelor of Music Degree is conferred upon any student who complies with the general regulations of the University concerning degrees, satisfies all entrance and departmental requirements, and completes one of the following curricula in music with an average of two grade points per semester-hour:[14]

A. Piano, pipe-organ, voice, band or orchestral instrument
B. Theory and composition
C. Public school music

Before graduation, all candidates for the degree Bachelor of Music must demonstrate the required proficiency in playing at sight piano accompaniments of moderate difficulty, and they must have performed in a minimum of four Student Recitals. In addition, all candidates for the degree Bachelor of Music in Public-School Music must show proficiency in voice and/or in one band or orchestral instrument.

CURRICULUM IN APPLIED MUSIC

Leading to the Degree of Bachelor of Music in Piano, Pipe-Organ, or in any of the Wind or String Instruments

Course Requirements

Music

	Hr.		Hr.
Applied Music Major	32	M. 155 and 156, Chamber Music (1 hr. each)	2
Applied Music Minor	16	M. 183 Conducting	3
M. 1, 2, 3, 4, Theory (4 hr. each)	16	M. 240 and 241, History of Music (3 hr. each)	6
M. 79 and 80, Survey of Music Literature and History (2 hr. each)	4	M. 281 Survey of Symphonic Music	2
M. 107 Analysis of Musical Form	3	Glee Club, Chorus, Band, or Orchestra	4
M. 109 and 110, Counterpoint (2 hr. ea.)	4	Music Electives	6
M. 153 and 154, Accompanying (1 hr. each)	2	M. 199 Recital	2
M. 113 and 114, Composition (2 hr. ea.)	4		
M. 117 Instrumentation, and M. 118 Orchestration or M. 119 Band Arranging (2 hr. each)	4	Total	110

Academic

	Hr.		Hr.
Foreign Language (French, German or Italian)	6	Military or Air Science (Men)	8
English	12	Electives	6
English 1 and 2 (6 hr.) or Communications 1 and 2 (6 hr.)		Women	28
English 18 or English 21 (Communications) (3 hr.)			
English 3, 4, 5, or 6 (3 hr.)		Men	34
P. Ed. (2 hr. Men, 4 hr. Women)	2-4		

Courses By Years

FRESHMAN

First Sem.	Hr.	*Second Sem.*	Hr.
Applied Major	4	Applied Major	4
Applied Minor	2	Applied Minor	2
M. 1	4	M. 2	4
Glee, Cho., Bnd., or Orch.	0	Glee, Cho., Bnd., or Orch.	0
English 1	3	English 2	3
P. Ed.[15]	1	P. Ed.[15]	1
Fr., Ger., or Ital.	3	Fr., Ger., or Ital.	3
	(W) 17		(W) 17
Mil. or Air (men)[16]	2	Mil. or Air (men)[16]	2
	(M) 19		(M) 19

SOPHOMORE

First Sem.	Hr.	*Second Sem.*	Hr.
Applied Major	4	Applied Major	4
Applied Minor	2	Applied Minor	2
M. 3	4	M. 4	4
M. 79	2	M. 80	2
Glee, Cho., Bnd., or Orch.	0	Glee, Cho., Bnd., or Orch.	0
Eng. 18 or 21 (Comm.)	3	Eng. 3, 4, 5, or 6	3
P. Ed.[15] (W)	1	P. Ed.[15] (W)	1
	(W) 16		(W) 16
Mil. or Air (men)[16]	2	Mil. or Air (men)[16]	2
	(M) 17		(M) 17

[14]Grade points in excess of those earned for credit of 8 hours in Glee Club Chorus, Orchestra, and Band will not be counted towards requirements for graduation.

JUNIOR				SENIOR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Applied Major	4	Applied Major	4	Applied Major	4	Applied Major	4
Applied Minor	2	Applied Minor	2	Applied Minor	2	Applied Minor	2
M. 107	3	M. 110	2	M. 113	2	M. 114	2
M. 109	2	M. 154	1	M. 117	2	M. 118 or 119	2
M. 153	1	Music elec.	4	M. 155	1	M. 156	1
Music elec.	2	Glee, Cho., Bnd.,		M. 183	3	M. 199	2
Glee, Cho., Bnd.,		or Orch.	1	M. 240	3	M. 241	3
or Orch.	1	Electives	3	M. 281	2	Glee, Cho., Band,	
Electives	3			Glee, Cho., Band,		or Orch.	1
				or Orch.	1		
	18		17		20		17

CURRICULUM IN APPLIED MUSIC

Leading to the Degree of Bachelor of Music in Voice

Course Requirements

Music

	Hr.		*Hr.*
Voice	32	M. 113 and 114, Composition	
Piano	16	(2 hr. each)	4
M. 1, 2, 3, 4, Theory (4 hr. each)	16	M. 117 Instrumentation, and M. 118	
M. 79 and 80, Survey of Music Litera-		Orchestration or M. 119 Band	
ture and History (2 hr. each)	4	Arranging (2 hr. each)	4
M. 107 Analysis of Musical Form	3	M. 183 Conducting	3
M. 109 and 110, Counterpoint (2 hr. ea.)	4	M. 240 and 241, History of Music	
M. 153 and 154, Accompanying		(3 hr. each)	6
(1 hr. each)	2	Glee Club or Chorus	4
M. 180 Survey of Operatic Music	2	M. 199 Recital	2
			102

Academic

	Hr.		*Hr.*
Foreign Language (French, German		Military or Air Science (men)	8
or Italian)	12	Electives	6
English	12		
English 1 and 2 (6 hr.) or			—
Communications 1 and 2 (6 hr.)		Women	34
English 18 or English 21			—
(Communications) (3 hr.)			
English 3, 4, 5, or 6 (3 hr.)		Men	40
P. Ed. 2 hr. men, 4 hr. women	2-4		

[15]Two hours of physical education for men, to be taken during the first year of residence, and four hours of physical education for women, to be taken during the first and second years in residence, are required for graduation of students presenting fewer than 58 semester hours, unless previous credit has been allowed.

[16]Military or Air Science is required of all male students except those who at the time of matriculation are 23 years of age or have completed no less than 58 hours of work and already have credit for 4 hours of military or air science or 1 unit of entrance credit in military academy. Students must register for military or air science upon their entrance into the University and continue in the course until the full requirement has been met or until a regular exemption card is filed in the Registrar's office.

Courses By Years

FRESHMAN

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Voice	4	Voice	4
Piano	2	Piano	2
M. 1	4	M. 2	4
Glee or Cho.	0	Glee or Cho.	0
English 1	3	English 2	3
P. Ed.[15]	1	P. Ed.[15]	1
Fr., Ger., or Ital.	3	Fr., Ger., or Ital.	3
	(W) 17		(W) 17
Mil. or Air (men) [16]	2	Mil. or Air (men) [16]	2
	(M) 19		(M) 19

SOPHOMORE

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Voice	4	Voice	4
Piano	2	Piano	2
M. 3	4	M. 4	4
M. 79	2	M. 80	2
Glee or Cho.	0	Glee or Cho.	0
P.E.[15] (W)	1	P.E.[15] (W)	1
Fr., Ger., or Ital.	3	Fr., Ger., or Ital.	3
	(W) 16		(W) 16
Mil. or Air (men) [16]	2	Mil or Air (men) [16]	2
	(M) 17		(M) 17

JUNIOR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Voice	4	Voice	4
Piano	2	Piano	2
M. 107	3	M. 110	2
M. 109	2	M. 154	1
M. 153	1	M. 180	2
Eng. 18 or 21 (Comm.)	3	Eng. 3, 4, 5, or 6	3
Acad. elec.	3	Acad. Elec.	3
Glee or Cho.	1	Glee or Cho.	1
	19		18

SENIOR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Voice	4	Voice	4
Piano	2	Piano	2
M. 113	2	M. 114	2
M. 117	2	M. 118 or 119	2
M. 183	3	M. 241	3
M. 240	3	M. 199	2
Glee or Cho.	1	Glee or Cho.	1
	17		16

CURRICULUM IN THEORY AND COMPOSITION

*Leading to the Degree of Bachelor of Music in Theory and Composition**

Course Requirements

Music

	Hr.		*Hr.*
Applied Music	40	M. 155 and 156, Chamber Music (1 hr. each)	2
Instrument Classes	4	M. 180 Survey of Operatic Music	2
M. 1, 2, 3, 4, Theory (4 hr. each)	16	M. 183 Conducting	3
M. 79 and 80, Survey of Music Literature and History (2 hr. each)	4	M. 186 and 187, Composition (2 hr. each)	4
M. 107 Analysis of Musical Form	3	M. 240 and 241, History of Music (3 hr. each)	6
M. 109 and 110, Counterpoint (2 hr. ea)	4	M. 281 Survey of Symphonic Music	2
M. 113 and 114, Composition (2 hr. each)	4	M. 198 Original Major Work in Composition	2
M. 119 Instrumentation, M. 118 Orchestration, and M. 119 Band Arranging (2 hr. each)	6	Glee Club, Chorus, Band, or Orchestra	4
			106

*In order to be approved for candidacy in this field at the beginning of the Junior year, a student working toward the degree of Bachelor of Music in Theory and Composition must have maintained at least an average of "B" in all Theory courses required in the Freshman and Sophomore years, and he must have attained and demonstrated the required proficiency in Piano.

Academic

	Hr.		Hr.
Foreign Language (French, German or Italian)	12	P. Ed. (2 hr. men, 4 hr. women)	2-4
English	12	Military or Air Science (men)	8
English 1 and 2 (6 hr.) or Communications 1 and 2 (6 hr.)		Women	28
English 18 or English 21 (Communications) (3 hr.)			
English 3, 4, 5, or 6 (3 hr.)		Men	34

Courses By Years

FRESHMAN

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Applied	6	Applied	6
M. 1	4	M. 2	4
M. 79	2	M. 80	2
Glee, Cho., Band, or Orch.	0	Glee, Cho., Band, or Orch.	0
English 1	3	English 2	3
P.E.[15] (W)	1	P.E.[15] (W)	1
	(W) 16		(W) 16
Mil. or Air[16] (men)	2	Mil. or Air[16] (men)	2
	(M) 18		(M) 18

SOPHOMORE

Frist Sem.	*Hr.*	*Second Sem.*	*Hr.*
Applied	6	Applied	6
M. 3	4	M. 4	4
Glee, Cho., Band, or Orch.	0	Glee, Cho., Band, or Orch.	0
Eng. 18 or Eng. 21 (Comm.)	3	Eng. 3, 4, 5, or 6	3
Fr., Ger., or Ital.	3	Fr., Ger., or Ital.	3
P.E.[15] (W)	1	P.E.[15] (W)	1
(W)	17		(W) 17
Mil. or Air[16] (men)	2	Mil. or Air[16] (men)	2
(M)	18		(M) 18

JUNIOR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Applied	4	Applied	4
M. 107	3	M. 110	2
M. 109	2	M. 114	2
M. 113	2	M. 118	2
M. 117	2	M. 180	2
Glee, Cho., Band, or Orch.	0	Glee, Cho., Band, or Orch.	0
Fr., Ger., or Ital.	3	Fr., Ger., or Ital.	3
Inst. Class	1	Inst. Class	1
	18		17

SENIOR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Applied	4	Applied	4
M. 155	1	M. 119	2
M. 183	3	M. 156	1
M. 186	2	M. 187	2
M. 240	3	M. 198	2
M. 281	2	M. 241	3
Inst. Class	1	Glee, Cho., Band, or Orch.	0
Glee, Cho., Band, or Orch.	0	Inst. Class	1
	17		16

CURRICULUM IN PUBLIC SCHOOL MUSIC

Leading to the Degree of Bachelor of Music in Public-school Music

Course Requirements

Music

	Hr.		Hr.
Applied Music	32	M. 183 Conducting	3
Major (Minimum) 16 hr.		M. 185 Public School Music	3
Minor (Minimum) 6 hr.		M. 181 Instrumental Techniques or	
Instrument classes 4 hr.		M. 182 Choral Techniques	2

Electives	6 hr.
M. 1, 2, 3, 4, Theory (4 hr. each)	16
M. 107 Analysis of Musical Form	3
M. 117 Instrumentation, M. 118 Orchestration or M. 119 Band Arranging (2 hr. each)	4
M. 240 and 241, History of Music (3 hr. each)	6
Glee Club, Chorus, Band, or Orchestra	4
	73

Academic

	Hr.		*Hr.*
English	12	Science	8
English 1 and 2 (6 hr.) or Communications 1 and 2 (6 hr.) English 18 or English 21 (Communications) (3 hr.) English 3, 4, 5, or 6 (3 hr.)		General Biology 1 and 2 (4 hr. each) or Physical Science 1 and 2 (4 hr. each)
Social Science	14-16	Art 30 or 130	2
History 1 and 2 (3 hr. each) or Humanities 1 and 2 (4 hr. each) Social Science 1 and 2 (4 hr. each)		P. Ed. (2 hr. men, 4 hr. women)	2-4
		Health Education 101 or 180	2
		Military Science 1, 2, 3, 4 (2 hr. each) (men)	8
		Women	42-44
		Men	48-50

Education

	Hr.		*Hr.*
Ed. 55 Educational Psychology	3	Ed. 120 Principles of Teaching in the Secondary Schools	2
Ed. 56 Educational Psychology	3	Ed. 124 Student Teaching	4
Ed. 114 Educational Psychology—Adolescent Adjustment	3	Ed. 169 Materials and Methods of High School Teaching (Music)	2
Ed. 115 Student Teaching in the Elementary School	2		
Ed. 130 Materials and Methods in Elementary-School Music	2	Total	21

Courses By Years

FRESHMAN

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Applied	4	Applied	4
M. 1	4	M. 2	4
Glee, Cho., Band, or Orch.	0	Glee, Cho., Band, or Orch.	0
Eng. 1	3	Eng. 2	3
Hist. 1 or Humanities 1	3-4	Hist. 2 or Humanities 2	3-4
P. Ed.[15]	1	P. Ed.[15]	1
	(W) 15-16		(W) 15-16
Mil. or Air[16] (men)	2	Mil. or Air[16] (men)	2
	(M) 17-18		(M) 17-18

SOPHOMORE

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Applied	4	Applied	4
M. 3	4	M. 4	4
Glee, Cho., Band, or Orch.	0	Glee, Cho., Band, or Orch.	0
Eng. 18 or Eng. 21 (Comm.)	3	Eng. 3, 4, 5, or 6	3
Social Science 1	4	Social Science 2	4
Ed. 55	3	Ed. 56	3
P.E.[15] (W)	1	P.E.[15] (W)	1
	(W) 19		(W) 19
Mil. or Air[16] (men)	2	Mil. or Air[16] (men)	2
	(M) 20		(M) 20

JUNIOR				SENIOR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Applied	4	Applied	4	Applied	4	Applied	4
M. 107	3	M. 118 or 119	2	M. 181 or 182	2	M. 241	3
M. 117	2	M. 185	3	M. 240	3	Ed. 120	2
M. 183	3	Gen. Biol. 2 or Physical Sci. 2	4	Ed. 115	2	Ed. 169	2
Gen. Biol. 1 or Physical Sci. 1	4	Art 130	2	Ed. 130	2	Ed. 124	4
Glee, Cho., Band, or Orch.	1	Ed. 114	3	Health Ed. 101 or 180	2	Glee, Cho., Band, or Orch.	1
		Glee, Cho., Band, or Orch.	1	Glee, Cho., Band, or Orch.	1		
	17		19		16		16

The student is required to take work in his major field of Applied Music each semester he is enrolled in the School of Music. Work in the minor field and in the approved electives will be pursued under the guidance of the student's adviser.

Credit in the performing organizations such as the Band, the Orchestra, the Chorus, the Glee Clubs, is given only in the junior and senior years.

Certification

Students successfully completing the above course of study will qualify for the Special Non-Academic Certificate in Music. This certificate permits one to teach on both elementary and secondary levels.

Students may qualify for the First Class High School Certificate by taking a second teaching field, and the following courses in Education: 55, 56, 114, 120, 124, 169, and a 3-hour Education elective in Secondary Education. (See W.V.U. Teacher Training Bulletin for requirements in Teaching Fields.)

Some students have found it possible to qualify for both the Special Non-Academic and the First Class High-School Certificates. This will normally require extra time in Summer Session or during the regular year.

COURSES OF INSTRUCTION

1. Theory. I. 4 hr. Thorough training in the melodic, harmonic, and rhythmic elements of music. Triads, intervals, keys, scales, cadences, notation, rhythmic reading, sight singing, melodic and harmonic dictation. Keyboard harmony stressed. Staff

2. Theory. II. 4 hr. PR: Music 1. Continuation of melodic and harmonic dictation. Seventh chords, modal scales, key relationships, modulation, transposition by clef, and the study of four-part writing. Special drills in keyboard harmony. Staff

3. Theory. I. 4 hr. PR: Music 1, 2. Study of the harmonic technique of the 18th and 19th centuries. Melodic and harmonic dictation, four-part writing, modulation, altered chords, chorale harmonization, keyboard harmony. Staff

4. Theory. II. 4 hr. PR: Music 1, 2, 3. Continuation of Theory 3 drills. Dictation of chorales. Contrapuntal technique of the 18th century. Keyboard harmony. Staff

10. Music in Human Relations. I, II. 2 hr. A course designed to supply a foundational, cultural, musical background to a clearer understanding of music as a daily living experience. Lectures, demonstrations, concerts, recordings. Not open to Music majors. Staff

11. Music in the Primary Grades. I, II. 2 hr. Problems in the teaching of music in grades one through three. Not open to Music majors. Staff

12. Music in the Later Elementary Grades. I, II. 2 hr. Problems in the teaching of music in grades four through six. Not open to Music majors. Staff

77. Enjoyment of Music. I. 1 hr. A non-technical course dealing with the elements of music—rhythm, timbre, form, harmony, melody, etc. Not open to music majors. Mr. Wood

78. Enjoyment of Music. II. 1 hr. Continuation of Music 77. Not open to music majors. Mr. Wood

79. Survey of Music Literature and History. I. 2 hr. General survey of musical literature and history. Miss Hinkel

80. Survey of Music Literature and History. II. 2 hr. Continuation of Music 79. Miss Hinkel

107. Analysis of Musical Form. I. 3 hr. A detailed study of the structure of music. Mr. English

109. Introductory Counterpoint. I. 2 hr. A course in 16th century polyphony. A brief survey of the history of counterpoint precedes a study of the melodic and contrapuntal principles of style in 16th century choral music. Students compose original melodies, and two- and three-part compositions. Mr. English

110. Counterpoint. II. 2 hr. PR: Music 109. Continuation of Music 109. Original composition for three, four, and five voices in the 16th century style. Mr. English

113. Introductory Composition. I. 2 hr. PR: Music 4. Original creative writing in the smaller forms. Mr. Haugland

114. Composition. II. 2 hr. PR: Music 113. Continuation of original writing. Mr. Haugland

117. Instrumentation. I. 2 hr. A study of the characteristics of band and orchestral instruments and their uses in scoring. Mr. Haugland

118. Orchestration. II. 2 hr. PR: Music 117. Problems in scoring for orchestral ensembles. Mr. Haugland

119. Band Arranging. II. 2 hr. PR: Music 117. Problems in scoring for concert and marching bands. Mr. Intravaia

180. Survey of Operatic Music. II. 2 hr. Miss Hinkel

181. Instrumental Techniques. I. 2 hr. The organization and administration of an instrumental program in the public schools. Mr. Intravaia

182. Choral Techniques. I. 2 hr. The organization and administration of choral groups in high school. Mr. McGregor

183. Conducting. I. 3 hr. A basic course in conducting techniques, both choral and instrumental. Miss Hinkel and Mr. Brown

185. Public School Music. II. 3 hr. Essentials of public school music, vocal and instrumental. Miss Hinkel

186. Composition. I. 2 hr. PR: Music 113 and Music 114. Original writing of vocal music. Staff

187. Composition. II. 2 hr. PR: Music 113 and Music 114. Original writing of instrumental music. Staff

198. Original Major Work in Composition. I, II. 2 hr. Required for degree in Theory and Composition. Staff

200. Band, Orchestra, and Chorus Clinic. 2 hr. Special problems of organization and development, including literature, rehearsal technique, drilling, tuning, and motivation of student practice. Lecture and discussion groups. This clinic will function with laboratory groups of high-school students. Staff

240. History of Music. I. 3 hr. Survey of music history from the pre-Christian era to the end of the classical-school period. Mr. Wood

241. History of Music. II. 3 hr. Continuation of Music 240, including the romantic and modern schools. Mr. Wood

281. Survey of Symphonic Music. I, II. 2 hr. Miss Hinkel

VOICE

Assistant Professors McEnney and McGregor

The material used is selected according to individual needs. Vocalises; English, Italian, French, and German song literature; arias from standard operas and oratorios. Before graduation each student is required to give public recital of selections chosen from the standard literature for the voice.

199. Graduation Recital. I, II, 2 hr. (Required for degree)

PIANO

Assistant Professors Manning and English; Instructors Pestun and Lorince

The material used is selected according to individual needs. Technical studies, etudes, and standard compositions of Bach, Mozart, Haydn, Beethoven, Schubert, Schumann, Chopin, Liszt, Brahms, Debussy, Dohnanyi, Scriabine, etc. Before graduation each student is required to give a public recital.

199. Graduation Recital. I, II. 2 hr. (Required for degree).

VIOLIN

Associate Professor Wood

The material used is selected according to individual needs. Technical studies by Schradieck, Sevcik, etc. Solos and concertos by Wieniawski, Vieuxtemps, Sarasate, Viotti, Spohr, Mozart, etc. Before graduation each student is required to give a public recital of compositions chosen from the standard literature for the violin, including concertos by Bruch, Mendelssohn, Conus, Paganini, and others.

199. Graduation Recital. I, II. 2 hr. (Required for degree.)

PIPE ORGAN

Assistant Professor English

The materials used are selected according to individual needs. Technique; standard works of Bach, Mendelssohn, Widor, Vierne, etc. Before graduation each student is required to give a public recital of compositions chosen from the standard literature for the pipe organ.

199. Graduation Recital. I, II. 2 hr. (Required for degree.)

BAND AND ORCHESTRA INSTRUMENTS

Associate Professor Wood; Instructors Coplin, Haugland, Intravaia, and Lorince -

Individual lessons; standard methods; materials selected to meet individual needs.

199. Graduation Recital. I, II. 2 hr. (Required for degree.)

ENSEMBLE

Staff

153, 154. Accompanying. I, II. 1 hr. per semester. The course furnishes opportunity to acquire the art of accompanying vocal and instrumental solos. Staff

155, 156. Chamber Music. I, II. 1 hr. per semester. The study of sonatas, trios, and string quartets. Open to pianists and string and wind instrument players. Staff

APPLIED MUSIC CLASSES[17]

Assistant Professors Brown and McEnney. Instructors Coplin, Haugland, Intravaia, Lorince, and Pestun

89.	Class Voice. I, II. 1 hr. A class course for beginners.	Staff
90.	Class Piano. I, II. 1 hr. A class course for beginners.	Staff
190.	Oboe and Bassoon. A class course for beginners.	Staff
191.	Trombone. I, II. 1 hr. A class course for beginners.	Staff
192.	Cornet. I, II. 1 hr. A class course for beginners.	Staff
193.	Clarinet. I, II. 1 hr. A class course for beginners.	Staff
194.	Violin and Viola. I, II. 1 hr. A class course for beginners.	Staff
195.	Flute. I, II. 1 hr. A class course for beginners.	Staff
196.	Cello and Bass. I, II. 1 hr. A class course for beginners.	Staff
197.	Percussion. I, II. 1 hr. A class course for beginners.	Staff

ORGANIZATIONS

100.	Band. 0 or 1 hr.	Mr. Intravaia
101.	Men's Glee Club. 0 or 1 hr.	Mr. McGregor
102.	University-Community Mixed Chorus. 0 or 1 hr.	Mr. McGregor
103.	University-Community Symphony Orchestra. 0 or 1 hr.	Mr. Wood
104.	Women's Glee Club. 0 or 1 hr.	Mr. Brown

[17]Students may use their own instruments, or instruments may be rented for a fee of $2.50 per semester.

The Graduate Degree

Candidates for the degree Master of Music are required to have completed the prescribed four-year curriculum of undergraduate study in Music, or to have completed such a curriculum, or its equivalent, at another institution of recognized standing. Students will be required to make up any undergraduate deficiencies.

Candidates for the graduate degree in Music may major in one of three fields: Applied Music, Public School Music, and Theory or Composition.

A thesis is required of those majoring in Public School Music. A representative public recital is required, in lieu of a thesis, of candidates majoring in Applied Music. Composition majors must submit as a thesis a musical composition in a large form. If the major is in Theory, the thesis may be either a musical composition or a written thesis, depending on the student's capabilities.

A comprehensive oral examination is required of all candidates for the Master of Music Degree.

Following are the three curricula:

Public School Music	*Hr.*
Applied Music	8
M. 310. Conducting	3
M. 340. Choral Techniques, or	
M. 342. Instrumental Techniques	3
M. 344. Public School Music	3
M. 399. Thesis	4
Electives, Music	3
Electives, Music or General	6
	30

Applied Music	*Hr.*
Applied Music. (At least 8 hours in a major field)	12
M. 310. Conducting	3
M. 320. Music Literature	3
M. 360. Composition, or	
M. 370. Orchestration	3
M. 398. Recital	4
Electives	5
	30

Theory or Composition	*Hr.*
Applied Music	4
M. 360. Composition	3
M. 361. Composition	3
M. 365. Counterpoint	3
M. 366 Counterpoint	3
M. 370. Orchestration	3
M. 371. Orchestration	3
M. 375. Pedagogy of Theory	2
M. 376. Pedagogy of Theory	2
M. 399. Thesis	4
	30

Applied Music

300. Applied Music. I, II. 1-4 hr. Open to qualified students in any field in Applied Music. Course number may be repeated as many times as necessary or desirable. Credit given at the rate of two hours per thirty-minute weekly lesson for music majors, one hour for nonmusic majors. Staff

Conducting

310. Conducting. I. 3 hr. PR: Music 183 or equivalent. A graduate course in instrumental and choral conducting. Major works are prepared and conducted through the use of recordings and the large University music organizations. Mr. Hart

311. Conducting. II. 3 hr. PR: M. 310. Continuation of M. 310. Mr. Hart

Literature

320. Music Literature. I, II. 3 hr. PR: Consent of instructor. Survey and critical study of music literature in the major field of Applied Music. Staff

Music Education

340. Choral Techniques. I. 3 hr. PR: Music 182 or equivalent. Study and practice in the development of choral groups. Mr. Brown

342. Instrumental Techniques. II. 3 hr. PR: Music 181, or equivalent. Study and practice in the development of instrumental groups. Mr. Intravaia

344. Public School Music. I. 3 hr. PR: Music 185 or equivalent. Survey and critical study of the vocal and instrumental repertoire of Public-school Music, with discussion of essentials in its performance. Miss Hinkel

345. Public School Music. II. 3 hr. PR: Music 344 or equivalent. Continuation of Music 344. Miss Hinkel

Theory and Composition

360. Composition. I, II. 3 hr. PR: Consent of instructor. A course primarily for candidates for the graduate degree in Theory and Composition. Mr. Hart

361. Composition. I, II. 3 hr. PR: Music 360. Continuation of Music 360. Mr. Hart

362. Composition. I, II. 3 hr. PR: Music 361. Continuation of Music 361. Mr. Hart

365. Counterpoint. I. 3 hr. PR: M. 110 or equivalent. Primarily a graduate course in 16th century counterpoint. A study is also made of the Bach contrapuntal style, and aspects of counterpoint in contemporary styles are examined. Mr. Lorince

366. Counterpoint. II. 3 hr. PR: M. 365. Continuation of M. 365. Mr. Lorince

370. Orchestration. I. 3 hr. PR: M. 118 or equivalent. Major projects in the orchestration of original or pre-existing works. Mr. Hart

371. Orchestration. II. 3 hr. PR: M. 370. Continuation of M. 370. Mr. Hart

372. Band Arranging. II. 3 hr. PR: Music 119 or equivalent. Major projects in arranging for the concert band. Mr. Intravaia

375. Pedagogy of Theory. I. 2 hr. PR: A strong undergraduate background in theory. An analysis of various approaches to the problems involved in the teaching of theory. Lectures, observation, and practice teaching. Mr. Hart

376. Pedagogy of Theory. II. 2 hr. PR: M. 375. Continuation of M. 375. Mr. Hart

Thesis or Recital

398. Recital. 4 hr. Staff

399. Thesis. 4 hr. Staff

The College of Pharmacy

GENERAL INFORMATION

The University first offered a course in pharmacy leading toward a Bachelor of Science Degree in Pharmacy for a four-year course in 1899. The course was listed in the University *Catalog* for a period of five years but there is no evidence of any students enrolled or of the employment of a pharmaceutically trained faculty. The announcement of the course was discontinued after publication of the 1903-04 *Catalog*.

In response to the request of the West Virginia State Pharmaceutical Association, a forward-looking group of pharmacists practicing in the state who recognized the necessity for more thoroughly educated and better-trained pharmacists, the Board of Regents in 1914 established a Department of Pharmacy in the School of Medicine. The first course offered was a two-year course leading to the degree of Graduate in Pharmacy (Ph.G.).

In 1917 additional courses of three and four years, leading to the degrees of Pharmaceutical Chemist (Ph.C.) and Bachelor of Science in Pharmacy (B.S.Phar.), were established. The course leading to the degree of Graduate in Pharmacy was discontinued in 1924, and the course leading to the degree of Pharmaceutical Chemist was discontinued in 1932. Since 1932, a minimum of four years of study has been required.

The College of Pharmacy was established as a separate division of the University, by order of the Board of Governors, effective July 1, 1936.

Aims and Purposes

The chief purpose of the College of Pharmacy is to provide a systematic instruction in pharmacy, its allied sciences, and such other subjects as are deemed to be essential in the education of a pharmacist, that he may meet the present and future demands of the profession in an able and intelligent manner. Its chief aim is to prepare its students for the intelligent practice of dispensing pharmacy, but it offers the facilities and instruction necessary for the practice of other branches of the profession.

OPPORTUNITIES IN THE PHARMACEUTICAL PROFESSION

The greater percentage of those who graduate in pharmacy are found to follow retail pharmacy as proprietors, managers, or prescription pharmacists. There are openings for those who do not desire to engage in the retail field. Hospitals are equipped with pharmaceutical departments in charge of pharmacists. Manufacturing plants and industrial laboratories employ pharmacists for control and research work involving medicines, foods, cosmetics, biologicals, and similar products. The federal government employs many pharmacists in capacities requiring training in pharmacy such as the Narcotic Bureau, the Industrial Alcohol Bureau, the Public Health Service, the Veterans' Administration, Bureau of Chemistry, and the Food and Drug Administration. Many pharmacists are employed as traveling salesmen for manufacturing and wholesale pharmaceutical concerns. Pharmacists are eligible for commissions in the U. S. Public Health Service and in the Medical Administrative Corps of the U. S. Army and the Navy's Medical Service Corps.

WOMEN IN PHARMACY

Women students are admitted to the College of Pharmacy on the same conditions as men. Experience has proved that women possess a peculiar fitness for the study and pursuit of pharmacy. In certain fields such as hospital pharmacy, women appear to be given preference. The number of women engaged in the profession is constantly

increasing, and high-school graduates having an aptitude for scientific subjects would do well seriously to consider pharmacy as their profession.

Laboratories

Pharmaceutical Laboratories. The pharmaceutical laboratories are equipped for the manufacture of pharmaceutical preparations. Drugs and chemicals required in the manufacture of pharmaceutical preparations are preserved in glass containers labeled according to the nomenclature of the Pharmacopoeia and National Formulary, and conveniently located on shelves accessible to all students in the laboratory. Equipment especially fitted for instruction in manufacturing pharmacy is available, such as a multi-speed centrifuge, with interchangeable heads and trunnion carriers and a bronze basket and copper drip pan for drying crystalline salts, a power-driven force-feed ointment mill, for the preparation of heavy ointments, paints, tooth pastes, and other similar preparations, a pony mixer for the prepartion of pastes and creams, a pill mass mixer, a kneading machine, compressed tablet machines with full sets of dies, pill and tablet coating machine, with polishing pan, a drug mill, a ball mill, a rapid sifter with complete set of sieves for the preparation of conspergents and insufflations, and a beater and emulsifying machine for the preparation of lotions, liniments, and emulsions of all types. There is a hand-operated piping and troche machine, pressure suppository machine, tablet triturate and hypodermic tablet machine and plates, gelatin-coating apparatus, a laboratory drug mill, electric drying ovens and capsule filling machines, tube filling, and tube closing machines, as well as other necessary equipment.

Each student is supplied with a full set of pharmaceutical apparatus and glassware necessary for carrying out the requirements of each laboratory course. Torsion balances, encased in glass, are a part of this regular equipment.

Pharmacognosy. The pharmacognosy collection consists of approximately 400 medicinal plant drugs secured from all parts of the world. For instructional purposes several large collections have been arranged. These are (a) a large display collection, (b) a labeled collection for student study, (c) a nonlabeled collection for identification, and (d) a collection of powdered drugs for the purpose of histological study.

Laboratory of Medical Bacteriology. The bacteriology laboratory is equipped with all necessary apparatus, such as sterilizers, incubators, glassware, etc. Each student has the use of a microscope with oil-immersion lens. Special apparatus for bacteriological examination of air, water, milk, and blood is supplied to each student. Material for laboratory work in bacteriological diagnosis such as Widal tests for typhoid examination of sputum for tubercle bacilli, bacteriological examination of water, etc., is available.

Physiology Laboratory. The laboratories devoted to physiology on the second floor of the Medical Building are supplied with tables, each accommodating two students. Each table is equipped with a complete set of general physiological apparatus which is lent to the students with a charge for breakage. Special apparatus is supplied from the storeroom to individual groups as needed. Sufficient equipment is provided to enable the students to perform all the experiments listed in standard laboratory manuals and for the demonstration by instructors of experiments which cannot conveniently be performed by the student.

Biochemistry Laboratories. The physiological chemistry laboratories situated on the fourth floor of the Chemistry Building, consist of a student's laboratory, containing the usual equipment of desks, hood, etc., the departmental office with reference library, and a research laboratory. A darkroom is available for work requiring its use, as in polariscope work, etc.

Other Laboratories. The laboratories of the Departments of Botany, Zoology, Chemistry, and Physics of the University are open to students in Pharmacy.

The University Pharmacy. The University Pharmacy is a practical pharmacy located in the Health Center. It is operated upon a strictly ethical basis where physicians' prescriptions are filled for the student body by registered pharmacists.

The University Pharmacy is equipped with a semi-open prescription department which, according to most authorities, is more desirable than either the fully open or closed prescription department.

Library and Reading Room

The books and periodicals of interest to pharmacy are housed in the University Library building. There is a good collection of works on chemistry, physiology, pharmacy, zoology, botany, bacteriology, and pharmacology. There are bound volumes of the leading scientific journals. Such books as are of interest to pharmacy students are kept on reserve and magazines of interest to pharmacy students filed in the general reading room, which is open from 8:00 A.M. to 10:00 P.M. In addition each department has its own collection of books for the use of instructors and students. Material not available in this library may be borrowed from the Surgeon General's Library or from the Library of Congress.

Requirements for the Practice of Pharmacy in West Virginia

The West Virginia law provides that a person "in order to be registered as a pharmacist . . . shall be a citizen of the United States, not less than 21 years of age," and "shall present to the board of pharmacy satisfactory evidence that he is a graduate of a recognized school of pharmacy as defined by the board of pharmacy, and in addition thereto he shall have had at least one year of practical experience in a drug store under the instruction and supervision of a registered pharmacist, and shall pass a satisfactory examination by or under the direction of the board of pharmacy.

"Every applicant for registration as a pharmacist shall present to the board of pharmacy satisfactory evidence that he is a person of good moral character and not addicted to drunkenness or the use of narcotic drugs."

Reciprocity

Graduates of the College of Pharmacy are eligible for examination to practice pharmacy in any state, but graduates of this College who successfully pass the West Virginia State Board of Pharmacy examination are privileged to reciprocate with forty-five other states and with the District of Columbia, Alaska, and Puerto Rico, without further examination, provided they possessed the experience required of these states before taking the examination.

Pharmaceutical Associations

The West Virginia State Pharmaceutical Association. This organization has for its object the improvement of the science and art of pharmacy, the inculcation of the professional spirit, and the restriction of the practice of pharmacy to persons properly qualified by education and experience to practice their art with safety to the public. Additional information may be obtained from William J. Dixon, Secretary-Manager, Oak Hill, West Virginia.

American Association of Colleges of Pharmacy. The College of Pharmacy holds membership in the American Association of Colleges of Pharmacy. The object of the Association is to promote the interests of pharmaceutical education and all institutions holding membership must maintain certain minimum requirements for entrance and graduation. Through the influence of this Association, higher standards of education have been adopted from time to time, and the fact that several states, by law or by board ruling, recognize these standards of the Association is evidence of this influence.

American Pharmaceutical Association. The West Virginia University College of Pharmacy Student Branch of the American Pharmaceutical Association was organized in 1948. Its object is to provide for participation of students in the activities of the American Pharmaceutical Association to the end that their interest in pharmaceutical-association work may be stimulated and guided, and to familiarize them with the conditions existing in and the problems confronting the profession.

Service to Pharmacists of the State

The College of Pharmacy desires to render every possible service to the pharmacists of the state. An invitation is extended to write or visit the College in regard to prescription difficulties and manufacturing problems.

REQUIREMENTS FOR THE DEGREE

The degree of Bachelor of Science in Pharmacy (B.S.Phar.) is conferred upon any student who complies with the general regulations of the University concerning degrees, satisfies all entrance and College requirements, and completes the curriculum of the College of Pharmacy.

To be eligible for graduation, a student must have an average of "C" or an average of two grade points on all work for which he received grades (except "W" and "WP").

Effective June 1, 1952, each student enrolling in the College must pass a proficiency examination in English after the beginning of his junior year in order to qualify for graduation. He shall take the examination during the first semester of his junior year, and if not declared proficient, shall repeat the examination as many times as necessary.

Students who fail to complete the requirements for graduation within seven years from their first registration in the College shall satisfy the requirements in effect at the time they apply for graduation.

All University degrees are conferred by the Board of Governors upon recommendation of the faculties of the various schools and colleges. Degrees are granted at the close of the semester or Summer Session in which the students complete their work.

Candidates for degrees to be conferred at the close of the second semester must be present in person to receive their degrees unless excused by the deans of their colleges.

Substitutions. A student who desires to substitute another course in place of any course prescribed in his curriculum must obtain permission for such substitution from the Committee on Scholarship.

Physical Education. Two hours of physical education for men, to be taken during the first year of residence, and four hours of physical education for women, to be taken during the first and second years of residence, are required for graduation of students presenting fewer than 58 semester hours, unless previous credit has been allowed.

Military Science. Four semesters of military science and tactics are required of all male students not specifically exempt. For detailed information consult the *Catalog.*

Grade Points. The College of Pharmacy requires a minimum standard of scholastic quality. Effective June 1, 1949, the quality of a student's work shall be expressed in grade points, based only on grades earned at West Virginia University (including Potomac State School of West Virginia University). The grade-point average is computed on all work for which the student has registered, except for the courses with grades of "W" and "WP," and is based on the following grade-point values:

A	B	C	D	F	FIW	WF	I
4	3	2	1	0	0	0	0

Provided, however, that when a student receives a grade of "I" and later removes the incomplete grade, his average grade-point standing shall be calculated on the basis of the new grade. It is the student's responsibility to keep informed on his grade-point standing. This information may be obtained at any time from the Dean of the College.

Students are permitted to reregister in any course for which a grade "D" has been received. In such cases the second grade shall supersede the first, provided it is not lower than "D."

CURRICULUM IN PHARMACY*

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Biology 1	4	Biology 2	4
Chem. 1	4	Chem. 2	4
English 1	3	English 2	3
†Mil. or Air Sci. 1	2	†Mil. or Air Sci. 2	2
Pharm. 1	3	Pharm. 3	2
Pharm. 2	2	†P. E. 2	1
†P. E. 1	1		
	19		16

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 5	4	Chem. 15	3
†Mil. or Air Sci. 3	2	†Mil. or Air Sci. 4	2
Pharm. 4	2	Pharm. 6	4
Pharm. 5	3	Pharm. 7	2
Pharm. 11	3	Pharm. 12	2
Physics 1	3	Physics 2	3
Physics 3	1	Physics 4	1
	18		17

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 233	5	Chem. 238	4
Econ. 1	3	Econ. 2	3
Pharm. 102	2	Pharmacol. 160.	1
Pharm. 103	2	Pharm. 8	3
Pharm. 106	3	Pharm. 10	2
†P. E. 127	2	Physiol. 141	4
	17		17

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Bact. 220	5	Pharm. 107	3
Pharmacol. 161.	4	Pharm. 109	2
Pharm. 105	2	Pharm. 113	5
Pharm. 108	3	Pharm. 114	3
Pharm. 110	3	Pharm. 203	3
	17		16

SUGGESTED ELECTIVE COURSES

FIRST SEMESTER

Subject	*Hr.*
Art 123—Lettering	2
Bot. 273—Plant Physiology	4
Bus. Ad. 121—Elements of Marketing	3
Bus. Ad. 141—Business Law	3
Chem. 111—Synthetic Inorganic Chem.	4
Chem. 214—Organic Qual. Anal.	3
Chem. 63 or 163—Physical Chem.	3
Chem. 247—Stereochemistry	2
Chem. 141—Assigned Topics	1 to 5
Chem. 277—Synthetic Drugs	2
Chem. 343—Advanced Organic Chem.	4
Chem. 212—Semi-micro-qual. Anal.	2 or 3
Economics 111—Money and Banking	3
English 3—English Literature	3
English 4—English Literature	3
English 5—American Literature	3
English 6—American Literature	3
English 125—Advanced Composition	2
French 1—(when not offered for entrance credit)	3
Genetics 111—Elementary Genetics	2

SECOND SEMESTER

Subject	*Hr.*
Art 123—Lettering	2
Bus. Ad. 130—Sales Management	2
Bus. Ad. 122—Marketing of Mfgd. Goods	3
Chem. 162—Colloidal Chem.	4
Chem. 274—History of Chem.	2
Chem. 142—Assigned Topics	1 to 5
Chem. 214—Organic Qual. Anal.	3
Chem. 277—Synthetic Drugs	2
Ch.E. 200—Chem. Eng'g Operations	2
Economics 114—Corporation Finance	3
English 3—English Literature	3
English 4—English Literature	3
English 5—American Literature	3
English 6—American Literature	3
English 126—Advanced Composition	2
French 2—(when not offered for entrance credit)	3
Geol. 1—Physical Geology	3
Genetics 111—Elementary Genetics	2
German 2—(when not offered for entrance credit)	3
History 2—European Civilization	3
History 53—American History	3
Humanities 2—Introductory General Course	4

*142 hours are required for graduation.

†Those not completing the Military (or Air Science) and Physical Education requirements are required to make selections of approved electives to complete the required hours for graduation.

FIRST SEMESTER

Subject	*Hr.*
Geol. 1—Physical Geology	3
Geol. 184—Mineralogy	4
German 1—(when not offered for entrance credit)	3
German 121—Scientific German	3
Hist. 1—European Civilization	3
Hist. 52—American History	3
Humanities 1—Introductory General Course	4
Humanities 181—American Civilization	4
Journalism 113—Prin. of Advertising	3
Math. 3—College Algebra	3
Math. 4—Plane Trigonometry	3
Pharm. 116—Pharmaceutical Investigation	2 or 3
Pharm. 117—Dispensing	1 or 2
Pharm. 119—Marketing Drug Products.	3
Pharm. 120—Cosmetics	1 or 2
Physics 109—Problems in General Physics	2
Speech 3—Voice and Diction	3
Speech 11—Public Speaking	3
Sociol. 101—Introd. to Sociol.	3
Zool. 1—General Zoology	4
Zool. 231—Comparative Anatomy	5

SECOND SEMESTER

Subject	*Hr.*
Humanities 182—American Civilization	4
Math. 3—College Algebra	3
Math. 4—Plane Trigonometry	3
Pharm. 101—Show Card Design & Window Display	2
Pharm. 104—Qual. Anal. Alkaloids	2
Pharm. 117—Dispensing	1 or 2
Pharm. 121—Household Products	1 or 2
Pharm. 116—Pharmaceutical Investigation	2 or 3
Pharm. 122—Manufacturing Pharmacy	2
Physics 110—Problems in General Physics	2
Physics 116—Photography	3
Psych. 1—Introd. to Psych.	3
Psych. 110—Applied Psych.	3
Psych. 132—Psychology of Advertising and Selling	3
Speech 3—Voice and Diction	3
Speech 11—Public Speaking	3
Zool. 2—General Zoology	4

COURSES OF INSTRUCTION

PHARMACY

Professor GEILER

1. PRINCIPLES OF PHARMACY. I. 3 hr. A brief survey of the historical background of Pharmacy, the development and purpose of the United States Pharmacopoeia and National Formulary, together with a systematic study of weights and measures, and fundamental pharmaceutical processes and terminology. (45 hr.) Lectures and recitations. Mr. Geiler

2. PHARMACEUTICAL CALCULATIONS. 1. 2 hr. The mathematical problems and calculations encountered in and peculiar to pharmaceutical practice. (30 hr.) Mr. Wojcik

3. PHARMACEUTICAL CALCULATIONS. II. 2 hr. A continuation of Pharmacy 2. (30 hr.) Mr. Wojcik

4. GENERAL PHARMACY. I. LECTURES. I. 2 hr. A course dealing with the theories, processes of manufacture and the nomenclature of the simple galenical preparations used in pharmacy, both official and non-official. (30 hr.) Lectures and recitations. Mr. Geiler

5. GENERAL PHARMACY 1. LABORATORY. I. 3 hr. A laboratory course to accompany Pharmacy 4 where representative examples of the various preparations are prepared. (135 hr.) Laboratory. Mr. Geiler

6. GENERAL PHARMACY 2. II. 4 hr. A detailed study of the more complex types of official and non-official preparations. (60 hr.) Lectures and recitations. Mr. Wojcik

7. Introductory Dispensing Pharmacy. II. 2 hr. A study of the compounding and dispensing of the more difficult types of pharmaceutical preparations. (90 hr.) Laboratory. Mr. Wojcik

103. Public Health and Hygiene. I. 2 hr. A study of the measures required for the maintenance of health and for the prevention and control of disease, and the application of the pharmacist's knowledge, skill, and facilities to the promotion of the health and welfare of the public in cooperation with public and private health agencies. (30 hr.) Lectures and recitations. Mr. Bergy

105. History of Pharmacy. I. 2 hr. A course designed to give the student a deeper appreciation of the background of pharmacy and its development from the ancient times to the present. (30 hr.) Lectures and recitations. Mr. Wojcik

108. Dispensing Pharmacy. I. 3 hr. A course dealing with the fundamentals of prescriptions including the receiving, compounding, pricing, and dispensing. The course includes a study of prescriptions with special reference to incompatibilities and the techniques in the proper dispensing thereof. A brief summary of prescription latin is included. (45 hr.) Lectures and recitations. Mr. Hayman

109. Dispensing Pharmacy. II. 2 hr. A laboratory course giving practical work in compounding the more difficult and unusual prescriptions. (90 hr.) Laboratory. Mr. Bergy

113. Pharmacy and Chemistry of Medicinal Products. II. 5 hr. A comprehensive study of the acids, bases, salts and preparations which are commonly used in the practice of pharmacy with emphasis on the official compounds and preparations. (75 hr.) Lectures and recitations. Mr. Geiler

116. Pharmaceutical Investigation. I or II. 1-3 hr. Original investigation in pharmacy or pharmaceutical chemistry. Staff

117. Dispensing Pharmacy. I or II. 1 or 2 hr. A practical course in the dispensing of prescriptions which is open to a few students upon permission. The students assist in the compounding of prescriptions in the Health Service Pharmacy under the immediate supervision of a registered pharmacist. (45 to 90 hr.) Miss George

120. Cosmetics. I. 1 or 2 hr. A laboratory course devoted to the compounding of a large and varied number of cosmetic preparations. (45 to 90 hr.) Laboratory. Mr. Bergy

121. Household Products. II. 1 or 2 hr. A laboratory course devoted to the preparation of a variety of household products. (45 to 90 hr.) Laboratory. Mr. Bergy

122. Manufacturing Pharmacy. II. 2 hr. A course dealing with the formulation and mechanical fabrication of pharmaceutical preparations on a pilot plant scale. (90 hr.) Laboratory. Mr. Bergy

203. Biological and Chemical Therapy. II. 3 hr. A study of the hormones, glandular products, antibiotics, vitamins and the more recent chemotherapeutic agents used medicinally. The course includes the methods of preparation and standardization of biologicals. (45 hr.) Lectures and recitations. Mr. Bergy

Pharmacognosy

Professor Hayman

10. Microscopical Pharmacognosy. II. 2 hr. A study of the microscopical characteristics of the commercial starches, powdered vegetable drugs, and their adulterants. (90 hr.) Laboratory. Mr. Geiler

11. Pharmacognosy. I. 3 hr. A course in which the more important vegetable drugs are studied, giving especial emphasis to the history, commerce, collection, identification, preservation, standards, active constituents, and their medicinal preparations and use. (45 hr.) Lectures and recitations. Mr. Hayman

12. Pharmacognosy. II. 2 hr. A continuation of Pharmacy 11. (30 hr.) Lectures and recitations. Mr. Hayman

Pharmacy Administration

Assistant Professor Wojcik

8. Pharmaceutical Law. II. 3 hr. A course designed to give the student a broad knowledge of the legal problems which confront the pharmacist. Special attention is given to the federal and state laws relating to the practice of pharmacy, narcotics, poisons, the pure food, drug and cosmetic acts, and the legal relationship of the pharmacist to the public (45 hr.) Lectures. Mr. Hayman

101. Show Card Design and Window Display. II. 2 hr. A laboratory course which offers the fundamentals in show card writing, emphasizing the use of the brush, arrangement and color harmony, and the design and installation of professional window displays. (45 hr.) Laboratory. Mr. Hayman

102. Pharmacy Accounting. I. 2 hr. A course in the fundamentals of accounting, especially adapted to the needs of the pharmacist. (90 hr.) Laboratory. Mr. Wojcik

114. Pharmacy Management. II. 3 hr. A study of the business problems involved in planning, merchandising, operation, and control of a retail pharmacy. The course includes store location, organization and management, financing, departmentization and arrangement, selection and supervision of personnel, buying, pricing, sales promotion, selling, and control of stock, expenses, and credits. (45 hr.) Lectures and recitations. Mr. Wojcik

119. Marketing of Drug Products. I. 3 hr. A study of the methods of marketing, channels of distribution, development of pharmaceutical specialties, types of retail pharmacies and their locations, terms of sale, pricing, code marking, and stock control of merchandise. (45 hr.) Lectures. Mr. Wojcik

Pharmaceutical Chemistry

Professor Bergy

104. Qualitative Analysis of Alkaloids and Synthetics. II. 2 hr. A laboratory course concerned with a study of the chemical reactions of the alkaloids and methods for their identification and separation. (90 hr.) Laboratory. Mr. Bergy

106. Inorganic Pharmaceutical Chemistry. I. 3 hr. A study of the inorganic chemicals which are used as medicines or in the preparation of medicines. (45 hr.) Lectures and recitations. Mr. Bergy

107. Organic Pharmaceutical Chemistry. II. 3 hr. A study of the organic chemicals which are used as medicines or in the preparation of medicines. (45 hr.) Lectures and recitations. Mr. Bergy

110. Assay and Pharmaceutical Testing. I. 3 hr. Application of principles and technics of analytical chemistry to the analysis of official and non-official preparations. (105 hr.) Lectures and laboratory. Mr. Bergy

The School of Physical Education and Athletics

GENERAL INFORMATION

THE SCHOOL OF PHYSICAL EDUCATION AND ATHLETICS

As a result of the steadily increasing interest in the physical well-being of boys and girls of high school age as well as in intramural and interscholastic athletics, the State of West Virginia in 1927 adopted a state-wide program of physical education for secondary schools of the state.

The Division of Physical Education was established on the Campus in 1928 and became the School of Physical Education and Athletics in 1937. It serves many purposes, as follows:

1. It organizes and develops the recreation of students and faculty groups.
2. It provides leadership and facilities for a regular program of instruction and participation in physical activity according to individual needs, capacities, and interests.
3. It prepares teachers and supervisors in health and physical education in secondary schools and colleges.
4. It prepares coaches of athletic teams in secondary schools and colleges.
5. It prepares workers in the fields of recreation and safety education.
6. It provides prerequisites for entrance into departments in universities giving training in physical therapy.

Organization

For purposes of administration and instruction the School of Physical Education and Athletics is organized into the following departments:

I. Service program for men.
II. Service program for women.
III. Curriculum for majors and graduate students preparing for positions in health and physical education, athletic coaching, and recreation.
IV. Intramural sports.

Facilities

The Field House, located on the lower campus near the Monongahela River, provides facilities for classes, intramural sports, and intercollegiate athletics and contains the administrative offices of the School of Physical Education and Athletics.

Elizabeth Moore Hall, situated on the upper campus, provides social, recreation, and physical education facilities primarily for women students. It also houses the offices of the department of service program for women.

Mountainlair, a student activities center, is located on University Avenue near the stadium bridge.

Mountaineer Field is located within the stadium on the north border of the lower campus. It has a seating capacity of 34,000. It provides facilities for intercollegiate football, and track and field events.

The administrative offices of the Department of Intercollegiate Athletics are located in the University Avenue end of the stadium.

Outdoor activities areas for the Physical Education, Intramural Sports, and Intercollegiate Athletics Programs are located on the new campus off Highway 7, slightly more than one mile North of the Field House, and on the Old Athletic Field.

Intramurals

A broad intramural sports program for men and women is provided by the School of Physical Education and Athletics. It is the aim to encourage all students of the University to participate in organized athletic sports and wholesome active recreation. Competition is promoted between student groups and individuals. Such natural groupings as classes, fraternities, sororities, dormitories, and other nonfraternity units form the basis for activities in competitive sports.

The following activities are conducted for men in the Intramural program: speedball, touch football, tennis, volleyball, handball, basketball, indoor track, relays, bowling, basketball, free throwing, softball, horseshoes, and outdoor track. Other activities may be organized when there is sufficient interest on the part of students and when facilities permit. Leagues are organized to accommodate fraternities, dormitories and nonfraternity groups.

The following activities are conducted for women: horseshoes, volleyball, badminton, swimming, basketball, foul throwing, bowling, softball, archery, and tennis. Interclass tournaments for physical education majors are held in the following activities: volleyball, badminton, basketball, swimming, tennis, and softball. As the demand for more activities develops, the facilities will be increased and the program broadened.

The Service Program for Men and Women*

The service program, in and through selected physical activities, provides an opportunity for students to develop general physical well-being, skills in recreation, and wholesome health attitudes intended to meet pre- and post-graduate interests and needs. During Freshman Week all freshmen will report to the Health Service for physical and medical examination. These examinations are the guide in the selection of a program of physical education for the individual student.

Men students completing Physical Education 1 and 2 meet the University requirements of two hours' credit in physical education as a prerequisite for graduation of all students subject to this requirement.

COURSES

1. Service Program for Men. I. 1 hr. Required of all freshmen in the University (except majors in Physical Education). Students who are found to be physically unable to engage in regular activity will be assigned to an adaptive program of physical education recommended by University physicians and under the direction of the Staff of the department. All other students will be assigned to the *regular group* for the regular program of physical education under the direction of the Staff. These students will be organized into groups for instruction and organized competition in the following activities: Calisthenics and group games, boxing and wrestling, golf, swimming, volleyball, and basketball. Mr. Tork and Staff

2. Service Program for Men. II. 1 hr. Required of all freshmen men in the University (except majors in Physical Education). Students in the regular program will be organized into groups for organized competition in the following activities: calisthenics and group games, basketball, softball, bowling, tumbling and apparatus, badminton, handball, and swimming (special). Mr. Tork and Staff

*Members of the staff of the School of Physical Education and Athletics act as advisers to student organizations.

*This requirement should be met by the men in their first year of residence and by the women in their first two years of residence. Two hours of service program from the requirement for men and four hours for women are required for teacher certification.

3. Service Program for Women. One semester's work is required in each of the following groups: the four semesters of work should be selected from these:
Group 1—Physical Education 1 or 16 ..... (Swimming)
Group 2—Physical Education 2, 3, 4, 5, or 15 ..... (Dancing)
Group 3—Physical Education 6, 7, 8, or 57 ..... (Individual Sports)
Group 4—Physical Education 9 or 10 ..... (Group Sports)

COURSES

These courses need not be taken in sequence:

1. Swimming and Diving. I, II. 1 hr. Staff

2. Elementary Modern Dance. I, II. 1 hr. Staff

3. Folk Dance. I, II. 1 hr. Staff

4. Tap Dance. II. 1 hr. Staff

5. Ballroom Dance. I, II. 1 hr. (Limited to beginners) Staff

6. Stunts, Tumbling, and Trampoline. I, II. 1 hr. Staff

7. Archery. I, II. 1 hr. Staff

8. Minor Sports. I, II. 1 hr. Staff

9. Athletics. I. 1 hr. Soccer and volleyball. Staff

10. Athletics. II. 1 hr. Basketball and softball. Staff

11, 12, 13, and 14. Restricted Activities. I, II. 1 hr. (May be substituted for the required courses on recommendation of the Health Service.) Staff

15. Advanced Modern Dance. I, II. 1 hr. PR: Phys. Ed. 2. Staff

16. Advanced Swimming and Diving. I, II. 1 hr. PR: Phys. Ed. 1 or equivalent. Staff

57. Gymnastics. I, II. 1 hr. Conditioning exercises. Staff

101, 102. Service Program for Junior Women. I, II. 1 hr. Students may select any course from the above groups for which they have not previously received credit. Staff

103, 104. Service Program for Senior Women. I, II. 1 hr. Students may select any course from the groups for which they have not previously received credit. Staff

Camp Counselor Recommendations

To be eligible for recommendation by the School of Physical Education and Athletics as camp counselors, students majoring in Physical Education or Recreation must have completed Recreation 1, 3, and 106, and four of the five following courses: Recreation 5, 7, 8, 10, and 201, or equivalents. Other students must complete, in addition to the courses listed for majors in Physical Education and Recreation, four credit hours in activity courses in Physical Education, including Physical Education 54 and 66, or equivalents.

The Standing Committees

Graduate: Mr. Holter (chairman); Miss Griffin and Mr. Scherlacher.
Placement and Recommendation: Miss Griffin (chairman); Messrs. Holter, Semon, and Scherlacher.
Scholarship: Miss Hurst (chairman); Messrs. Semon, Scherlacher, and Holter.

Intramural Sports: MR. SEMON (chairman); MRS. BETO AND MR. SCHERLACHER.
Athletic Council: C. L. COLSON (chairman); A. L. STURM, G. G. POHLMAN, F. J. HOLTER, faculty members; JOHN L. HUNT, student member and OKEY GLENN and JOHN F. TAIT, alumni members.

REQUIREMENTS FOR DEGREES

The degree of Bachelor of Science in Physical Education or the degree of Bachelor of Science in Recreation may be conferred upon any student who satisfies the entrance requirements and offers 128 hours with an average of "C." Candidates for Physical Education degrees must also meet certain school and departmental requirements.

Each undergraduate who begins his college work after June 1, 1952 must pass a proficiency examination in English after the beginning of his Junior year in order to qualify for graduation. He shall take the examination during the first semester of his Junior year, and if not declared proficient, shall repeat the examination as many times as necessary.

PHYSICAL EDUCATION: REQUIRED AND ELECTIVE SUBJECTS*

Of the 128 hours which are required for the degree of Bachelor of Science in Physical Education, at least 40 hours are required in the School of Physical Education and Athletics. The remaining hours must be selected from such courses as may be approved by the adviser. A candidate for a degree is advised to make a selection of one of the teaching combinations on page 15 and to complete the number of semester hours required in each teaching group.

Courses are arranged to meet University requirements for the degree of Bachelor of Science in Physical Education as well as state requirements for teacher certification. The curriculum for the four-year course has been so arranged that consideration is given to various activities which should constitute a well-rounded program of physical education for boys and girls of high-school age. The courses are arranged in ten groups as follow:

A. Required courses in Physical Education which include practice of Physical Education courses for men are P.E. 5, 21, 22, 23, 24, 51, 52, 54, 66, 121, 123, 125, 126, 127, 132, 135, 151, 152, 153, 154; and for women: P.E. 5, 31, 32, 33, 35, 54, 61, 63, 66, 127, 132, 133, 135.
B. Required theory courses in Physical Education for both men and women unless otherwise indicated are: P.E. 67 (W), 71, 77, 175, 176 (M), 178 (W) 181, 191, 225 (M) 278.
C. Required courses in Recreation are: Recreation 1, 2, 3, and 122.
D. Required courses in Health Education are: Health Ed. 2 and 101.
E. Required courses in English.
F. Required courses in science which furnish a background for physical education.
G. Required courses in Education which consider the principles of general education.
H. Required courses in social studies.
I. Required courses in Military Science for men of the University.
J. Elective courses which are taken at the pleasure of the student.

It is understood that a sound and vigorous body is essential to all students who elect this curriculum. Each student must therefore pass a thorough physical examination before he will be allowed to enroll in this program. Special emphasis is placed upon personal and professional qualifications of the student as well as upon a high standard of scholarship.

*Courses marked (M) are open to men; courses marked (W) are open to women; all others are open to both men and women.

Student teaching in physical education is available in the University High School, the University Laboratory Elementary School, and in the elementary schools of Morgantown. Opportunity is provided also in the High School for practice coaching of high school athletic teams. Student assistance in the University Service Program in physical education is required of both men and women.

Advisers

The members of the staff of the School of Physical Education and Athletics will act as class advisers for all major students in Physical Education.

THE CURRICULUM FOR PHYSICAL EDUCATION MAJORS

Degree: Bachelor of Science in Physical Education

The curriculum for majors is organized to provide professional training for men and women who are desirous of becoming teachers of health and physical education in high schools and colleges. The courses are arranged to meet the University requirements for the degree of Bachelor of Science in Physical Education as well as the state requirements for teacher certification.

The following hours are required: Physical Education for men (43), for women (38); Health Education (4); Recreation (8); English and Speech (12); social studies (12); science (16); Education (20); Military or Air Science (M) (8); pertinent electives by advisement.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3
Biology 1	4	History 2	3
History 1	3	Art 30 or 130	2
Music 10	2	Mil. or Air Sci. (M)	2
Mil. or Air Sci. (M)	2	Recreation 1	2
P.E. 5	1	P.E. 22 (M)	1
P.E. 21 (M)	1	P.E. 24 (M)	1
P.E. 23 (M)	1	P.E. 32 (W)	1
P.E. 31 (W)	1	P.E. 33 (W)	1
P.E. 35 (W)	1	P.E. 67 (W)	2
P.E. 71	1	Electives	2
Men	18	Men	18
Women	17	Women	17

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Phys. Sci. 1	4	Phys. Sci. 2	4
Soc. Sci. 1	4	Soc. Sci. 2	4
Eng. 18 or 21	3	Recreation 3	2
Mil. or Air Sci. (M)	2	Mil. or Air Sci. (M)	2
Recreation 2	2	P.E. 38 (W) (Elec.)	2
P.E. 51 (M)	1	P.E. 54	2
P.E. 52 (M)	1	P.E. 66	1
P.E. 61 (W)	1	English 5 or 6	3
P.E. 63 (W)	1		
P.E. 77	2		
P.E. 34 (W) (Elec.)	1		
Men	19	Men	18
Women	17	Women	16

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Ed. 55	3	Ed. 56	3
P.E. 121 (M)	2	Zool. 171	4
P.E. 123 (M)	1	P.E. 126 (M)	1
P.E. 125 (M)	1	P.E. 132	1
P.E. 127	2	P.E. 176 (M)	3
P.E. 133 (W)	1	P.E. 178 (W)	3
P.E. 135	1	P.E. 225 (M)	3
P.E. 175	5	Rec. 122	2
P.E. 181	2	Electives (W)	4
H.Ed. 101	2		
Men	19	Men	17
Women	16	Women	17

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
P.E. 151 (M)	1	P.E. 152 (M)	1
P.E. 153 (M)	1	P.E. 154 (M)	1
P.E. 191	2	P.E. 278	3
*Ed. 114)	3	*Ed. 114)	3
*Ed. 120) or	2	*Ed. 120) or	2
*Ed. 124) elect.	4	*Ed. 124) elect.	4
*Ed. 152)	2	*Ed. 152)	2
Electives (M)	3	Electives (W)	2
Electives (W)	3		
Men	18	Men	16
Women	16	Women	16

*Required for those students desiring certification for teaching which may be taken either the first or second semester of Senior year.

Recreation Minor for Physical Education Majors

For students who, in addition to preparing for physical education as a first teaching field, have also the objective of fitting themselves for recreation leadership responsibilities in schools or in recreation programs sponsored by or in conjunction with school systems. Such a minor also will add opportunities for service and increased income in summer recreation programs in communities, industries, or private agencies. Students are encouraged to take the following courses as a minimum:

	Hours
Recreation 5 (Crafts)	2
Recreation 7 (Music)	2
Recreation 8 (Nature Recreation)	2
Recreation 10 (Recreation Dramatics)	2
Recreation 106 (Leadership Techniques)	2
Recreation 201 (Social Events)	2
Journalism 112 (Public Relations)	2
	14

Recommendation for Certification

The prospective teacher who intends to apply for certification for school service in the state should take care to satisfy requirements for other teaching fields and required courses in Education and Physical Education.

Certification Requirements

For a statement of the conditions governing the preparation of high school teachers and their recommendation to the State Board for certification, see the bulletin, *Requirements Applicable to Degrees and Certificates.*

Suggested Teaching Combinations for First-class High School Certification*

1. Physical education and biological science.
2. Physical education and mathematics.
3. Physcial education and social studies.
4. Physical education and English.
5. Physical education and physical and general science.
6. Physical education and physical science.
7. Physical education and biological and general science.
8. Other combinations approved by the adviser.

RECREATION: REQUIRED AND ELECTIVE SUBJECTS

Of the 128 hours which are required for the degree of Bachelor of Science in Recreation at least 54 hours are required in the School of Physical Education and Athletics. The remaining hours must be selected from such courses as may be approved by the adviser. It is generally advisable for those entering the recreation profession to fortify themselves particularly in at least one interest area besides the physical education activities by electing as many courses as possible in arts and crafts, or dramatics, or music, or nature recreation.

During the summer between the junior and senior years all Recreation majors are required to do at least eight weeks of supervised recreation leadership field work. The selected agency in which the student will do his work must be approved by the School of Physical Education and Athletics. Arrangements will be made for agency supervision and periodic visitation by the faculty supervisor. Evaluation

*Required for those students desiring certification for teaching.

of reports and observations will be made with the student.

The courses are arranged in nine groups and meet University requirements for the degree of Bachelor of Science in Recreation.

A. Required courses in Recreation: Recreation 1, 3, 5, 7, 8, 10, 102, 104, 106, 122, 201, 202, 204, 271, and 282.
B. Required courses in Physical Education.
C. Required courses in Health Education.
D. Required courses in English and Speech.
E. Required courses in science.
F. Required courses in Education.
G. Required courses in social studies.
H. Required courses in Military or Air Science for men of the University.
I. Elective courses: Students preparing themselves for a particular field of recreation leadership responsibility will elect courses strengthening themselves for the field selected. For example, those interested in industrial recreation will elect Recreation 283 and such other courses as labor relations and personnel management. Recreation leadership in social, municipal and governmental fields, rural areas, and in school-sponsored programs in similar fashion require special complementary courses pertinent to each field.
J. One summer (at least 8 weeks) supervised field work (Rec. 145).

THE CURRICULUM IN RECREATION

Degree: Bachelor of Science in Recreation

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Sec. Sem*	*Hr.*	*First Sem.*	*Hr.*	*Sec. Sem*	*Hr.*
English 1	3	English 2	3	Soc. Sci. 1	4	Soc. Sci. 2	4
Humanities 1	4	Humanities 2	4	Psychology 1	3	P. E. 54	2
Biology 1	4	Speech 50	3	Speech 11	3	P. E. 66	1
P. E. 21 (M)	1	P. E. 5	1	Music 77	1	Rec. 3	2
P. E. 23 (M)	1	P. E. 22 (M)	1	Rec. 5	2	Rec. 8	2
P. E. 31 (W)	1	P. E. 24 (M)	1	Rec. 7	2	Rec. 10	2
P. E. 35 (W)	1	P. E. 32 (W)	1	P. E. 34 (W)	1	Mil. or Air	
P. E. 71	1	P. E. 33 (W)	1	P. E. 61 (W)	1	Sci 4 (M)	2
Mil. or Air		P. E. 36 (W)	1	Mil. or Air		Electives	1-3
Sci. 1 (M)	2	Rec. 1	2	Sci. 3 (M)	2		
Electives (W)	1	Mil. or Air					
		Sci. 2 (M)	2				
		Electives (W)	1				
Men 16		Men 17		Men 17		Men 16	
Women 15		Women 16		Women 17		Women 16	

and Athletics provided they hold a baccalaureate degree from an approved college and satisfy prerequisites in the courses for which they register.

Students are accepted as advanced degree candidates upon written application to the Committee on Graduate Courses of the School of Physical Education and Athletics following one semester, or two summer terms, (12 semester hours) of graduate *residence* work* provided they:

A. Have at least 24 semester hours or its equivalent which is an undergraduate minor in either physical education, recreation, or a combination in both areas. The equivalent is determined by the committee on Graduate Courses.†

*Courses taken in University Extension are accepted for degree purposes provided the student has had prior approval from his adviser.

†Experience in teaching health, physical education, and recreation leadership, and coaching experience may be evaluated by special examination to adjust some of the undergraduate requirements.

PHYSICAL EDUCATION

COURSE	HR.
Anatomy, Physiology, or Kinesiology	4
Health Education and Hygiene	4
Principles, Organization, and Administration of Health and Physical Education	2
Physical Inspection and Correction of Remedial Defects	1
Team Sports	5
Recreational Activities	3
School and Community Activities	4
Rhythms	1

RECREATION

COURSE	HR.
Interpretation of Recreation	2
Sports and Physical Activities	4
Recreation Skills Courses	6
Camping and Nature Recreation	4
Public Relations	2
Community Recreation	2
Community Organization	2
Recreation Leadership	2

B. Demonstrate, to the satisfaction of the Committee on Graduate Study, a grasp of the important phases and problems of the field, the ability to successfully complete the program of study, and give promise for professional leadership.

COURSES OF INSTRUCTION

HEALTH EDUCATION

2. PERSONAL AND COMMUNITY HYGIENE. II. 2 hr. Those phases of hygienic living which should be understood by all college students. Special emphasis on personal aspects of hygiene. Mr. Semon

101. SCHOOL HEALTH PROBLEMS. I. 2 hr. Problems facing teachers and school administrators in the school day. Mr. Holter

‡180. PUBLIC SCHOOL HEALTH. I, II. 2 hr. Meets general requirements for state teachers' certificates. (Not required of majors in physical education.) Mr. Morris

201. ADVANCED SCHOOL HEALTH PROBLEMS. I, S. 2 hr. PR: Health Ed. 2, and 101 or 180; or equivalents. An analysis of problems in school health services, healthful school living, the nature of health education and the scope of health instruction which confront teachers and administrators. Mr. Holter

203. SCHOOL MENTAL HEALTH. II, S. 3 hr. PR: Health Ed. 101 or 180, 20 hours in Education, or equivalents. Designed to promote teacher understanding and efficiency in dealing with the emotional growth of normal boys and girls. The problems, factors, and techniques involved in developing the human relation skills in the school situation. Mr. Holter

301. COMMUNITY HEALTH. II, S. 3 hr. PR: Health Ed. 2 and 101 or 180 or equivalents. Health problems requiring community action, basic public health activities, community organization for health protection, voluntary health agencies, school health program and the role of state and federal agencies in the community health program. Staff

376. EVALUATION OF HEALTH INFORMATION. I, II. 3 hr. PR: Health Ed. 2; 180 or 101, or 14 undergraduate hours in Education. Study of published material to determine basic scientific accuracy and value. Examination of various media. Mr. Holter

PHYSICAL EDUCATION

Courses 1 and 2 (M), 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 57, 101, 102, 103, 104 (W).

5. Ballroom Dance. I, II. 1 hr. Mrs. Price

21. Football. I. 1 hr. (M). Theory and practice in fundamentals. Mr. Lewis and Staff

22. Apparatus and Tumbling. II. 1 hr. (M). Fundamentals. Mr. Bonsall

23. Basketball. II. 1 hr. (M). Theory and practice in fundamentals. Mr. Brown and Staff

24. Baseball. II. 1 hr. (M). Theory and practice in fundamentals. Mr. Harrick

31. Athletics. I. 1 hr. (W). Fundamentals, skills, and practice in playing soccer, and basketball. Mrs. Beto

32. Athletics. II. 1 hr. PR: P.E. 31. (W). Techniques and practice in teaching and officiating basketball. Fundamental skills and practice in softball. Mrs. Beto

33. Swimming and Diving. I. 1 hr. (W). Elementary swimming and diving. Mrs. Short

34. Advanced Swimming. II. 1 hr. (W). Methods of teaching. Elective. Mrs. Short

35. Elementary Modern Dance. I. 1 hr. (W). Techniques of modern dance. Knowledge of historical background of dancing from primitive times to present. Mrs. Price

36. Advanced Modern Dance. II. 1 hr. PR: P.E. 35. (W). Continuation of P.E. 35, including methods of teaching. Mrs. Price

38. Dance Composition. II. 2 hr. PR: P.E. 35, 67. (W). Problems in force, time, and space as elements of expressive movement. Elective. Mrs. Price

51. Track and Field Athletics. I. 1 hr. (M). Theory and practice in fundamentals. Mr. Smith

52. Wrestling and Boxing. II. 2 hr. (M). Theory and practice in fundamentals. Mr. Harrick

54. Minor Sports. II. 2 hr. Theory and practice in fundamentals of archery, badminton, bowling, golf, handball, tennis, and volleyball. Mr. Semon

61. Stunts, Tumbling, and Trampoline. II. 1 hr. (W). Mrs. Short

63. Hockey and Volleyball. I. 1 hr. (W). Fundamentals, skills, and practice. Staff

66. Graded Games and Lead-up Games. II. 1 hr. Games for all ages which may be used in home, school, playground, and gymnasium, and lead-up games in various sports. Miss Hurst and Mr. Yost

67. Movement and its Rhythmic Structure. I. 2 hr. PR: P.E. 35, (W). Understanding of nature and scope of rhythm in physical education program. Mrs. Price

71. Introduction to Physical Education. I. 1 hr. Orientation course. Purposes, scope, and possibilities in health education, physical education, recreation, and coaching in a school program. Mr. Semon

77. History of Physical Education. I. 2 hr. Development of physical education from early civilization to present. Miss Griffin

121. Athletic Conditioning and Training. I. 2 hr. (M). Lectures, demonstrations, and practice work in training and conditioning in athletics. Mr. Smith

123. Swimming, Lifesaving, and Water Safety. I. 1 hr. (M). Theory and practice

‡This course is required for certification of all applicants other than Physical Education majors.

in aquatics and safety and their use in the program of physical education. Mr. Bonsall

124. Instructorship in Lifesaving and Water Safety. II. 1 hr. PR: P.E. 123 or equivalent. Meets American Red Cross Certification standards and the course completion carries eligibility for teaching lifesaving and water safety. Open only to students who have valid Senior Lifesaving Cards. Mr. Yost

125. Service Program Assisting. I. 1 hr. (M). Mr. Tork and Staff

126. Service Program Assisting. II. 1 hr. (M). Mr. Tork and Staff

127. First Aid. I. 2 hr. Standard and advanced first aid as outlined by American Red Cross. Miss Hurst and Mr. Yost

128. Instructorship in First Aid. II. 1 hr. PR: P.E. 127. Meets American Red Cross Certification Standards and the course completion carries eligibility for teaching First Aid. Open only to students who have valid advanced cards. Mr. Yost

132. Folk Dance. II. 1 hr. European and American folk dances. Miss Hurst

133. Tap Dance. I. 1 hr. (W). Elective (M). Miss Hurst

135. Ballroom Dance. I, II. 1 hr. PR: P.E. 5 or equivalent. Methods of teaching. Mrs. Price

151. Theory of Coaching Football. I. 1 hr. PR: P.E. 21. (M). Theory and practice. Various systems and styles of play. Mr. Lewis and Staff

152. Theory of Coaching Track. II. 1 hr. PR: P.E. 51. (M). Theory and practice. Special lectures and practical experience in officiating; administration of track and field meets. Mr. Smith

153. Theory of Coaching Basketball. I. 1 hr. PR: P.E. 23. (M). Theory and practice. Various systems and styles of play. Mr. Brown

154. Theory of Coaching Baseball. II. 1 hr. PR: P.E. 24. (M). Theory and practice; special lectures and practical experience in officiating. Mr. Harrick

175. Anatomy and Kinesiology. I, II. 5 hr. Principles of mechanics of bodily movement in relation to anatomical structure. Mrs. Beto

176. Modified and Corrective Activities. II. 3 hr. PR: P.E. 175. (M). Analysis of normal posture and individual deviations with treatment of latter by physical activity and massage. Personal health problems that can be treated by exercise. Mr. Yost

178. Modified and Corrective Activities. II. 3 hr. PR: P.E. 175. (W). Analysis of normal posture and individual deviations with treatment of latter by physical activity and massage. Personal health problems that can be treated by exercise. Miss Hurst

181. Safety Education. II. 2 hr. Safety needs and practices in home, on highways and streets, in schools and on playgrounds, and in industry. Special attention to safety instruction in Physical Education and recreation. Miss Griffin

191. Introduction to Tests in Health and Physical Education. I, S. 2 hr. A background course in physical achievement tests. History of development; review of outstanding tests. Essential procedures used in evaluating tests and their results, including statistical analysis. Mr. Yost

205. Coaching Workshop. I, S. 1-3 hr. An analysis and evaluation of a specific system for each sport, in terms of offensive, defensive, individual and team play, and associated problems of methodology, staff organization, scouting, and administration. Staff

209. Workshop in Rhythms and Dance. I, S. 1-3 hr. A course designed to meet the needs of the teachers of the elementary and secondary schools in the fundamentals of children's rhythms and various types of dance. Staff

224. Physiology of Exercise. I. 2 hr. PR: Anatomy and Physiology. Analysis of physiological changes which occur in the body during exercise. Staff

225. Officiating Football and Basketball. I, II. 3 hr. PR: P.E. 21, 23, or equivalents. (M). Rules, techniques of officiating, officials' organizations, and laboratory work. Successful completion of the course qualifies the student for membership in the State Football and Basketball Officials Association. Mr. Tork

278. Administration of Physical Education. II. 3 hr. PR: Open to majors who have completed requirements for first three years in Physical Education Curriculum and to graduate students selected on a basis of administrative experience and responsibility and those with an undergraduate minor in Physical Education or equivalent. Modern theories in physical education and guiding principles in organization and administration of the program. Staff

279. Administration of Athletics. S. 3 hr. P.E. 205 or P.E. 278. Associated problems in the organization and administration of the interscholastic and intercollegiate programs. Staff

281. Safety Education. I. 2 hr. PR: P.E. 71 and 4 hr. of undergraduate physical education courses or equivalent. The accident problem, history and philosophy of prevention. Educational procedures and programs at various levels. Miss Griffin

287. History of Physical Education. I. 2 hr. PR: P.E. 71 and 4 hr. selected from undergraduate courses in Physical Education or equivalent. Development of physical education from early civilization to present with particular emphasis on its relation to general education and world movements. Miss Griffin

290. Adaptation and Evaluation of Activities in Physical Education. II. 2 hr. PR: P.E. 71 and 4 hr. selected from undergraduate courses in Physical Education or equivalent. Formulation of criteria for continuous curriculum revision in accord with educational principles and in recognition of individual needs, abilities, and interests. Miss Griffin

292. Principles and Program of Physical Education in Elementary Schools. I, S. 2 hr. PR: Completion of requirements for first three years in Physical Education Curriculum. Relation of physical education in elementary schools to present-day educational philosophy and procedure. Analysis of courses of study of outstanding city and state departments as a background for formulating tentative curricula and use in local situations. Mr. Tork

293. Organization and Administration of Intramural Sports for Men and Women. I. 2 hr. PR: 71 and 4 hr. of physical education activity courses. Critical analysis with view to justification from standpoint of objectives and of contribution to general welfare of students participating. Problems of organization and administration of programs for men and women on secondary and college levels. Mr. Semon

294. Modern Trends and Principles of Physical Education. II, S. 2 hr. PR: P.E. 71 and 2 hr. of Health Education. Critical analysis of current problems in physical and health education; solution in light of sound principles. Recent trends and probable growth of responsibilities. Staff

295. Principles and Practices of Physical Reconditioning. I. 2 hr. PR. Zool. 151, P.E. 175, or equivalent. Principles and philosophy in building a remedial program, types of injuries, classification of students, and application of remedial exercises. Mr. Yost

374. Psychology of Coaching. I. 2 hr. PR: P.E. 21, 23, 24, 51, and 225 or equivalents. Designed for graduate students, and seniors within 10 hr. of graduation granted prior permission to take graduate work. Psychological principles underlying present methods of coaching athletic sports, laws of learning, current experiments, and selection of teaching material. Mr. Tork

*378. Problems of Physical Education, Health, and Recreation. I, II. 3 hr. PR: P.E. 278, Rec. 202, or 14 semester hours in undergraduate education. Content and relationships of problems in physical education, health education, and recreation. Aims to develop critical analysis. Follows seminar procedure and presupposes broad academic experience on part of student. Mr. Holter

389. Tests and Measurement in Health and Physical Education. II. 3 hr. PR: P.E. 191 or equivalent. Critical and statistical analysis of outstanding tests in health and physical education and their results. Mr. Holter

*396. Research Seminar in Health, Physical Education, and Recreation. II. 3 hr. PR: P.E. 378. Limited to advanced students. Research techniques as basis for compilation and organization of material for research projects. Each student completes an individual project. The Master's thesis may be initiated in the course. Mr. Holter

397. Individual Research Problems in Health, Physical Education, and Recreation. 1-4 hr. PR: P.E. 378 and 396. Opportunity for independent study and investigation of pertinent practical problems under supervision for advanced students with practical experience. Mr. Holter

399. Thesis. I, II. 2-6 hr. PR: P.E. 378 and 396. Mr. Holter

RECREATION

1. Introduction to Recreation. II. 2 hr. A framework into which the other recreation courses with all their implications will fit. History, trends, concepts, relationship to other fields; survey of national organizations, leaders, and literature. This course is basic to all other recreation courses. Mr. Scherlacher

2. Indoor and Outdoor Recreation Centers. I. 2 hr. PR: Rec. 1. Introduction to planning and operation of programs. Mr. Jeffrey

3. Camping. II. 2 hr. PR: Rec. 1. Introduction to the camping movement. Purposes, camp sites and equipment, activities, vocational opportunities, and qualifications of camp personnel, particularly the counselors. Mr. Jeffrey

5. Introduction to Arts and Crafts in Recreation. I. 2 hr. Workshop course. Place of arts and crafts in recreation, their organization, and integration with other phases of recreation. Staff

7. Introduction to Music in Recreation. I. 2 hr. Function of music in recreation program and how it is organized and adapted to meet varied tastes and needs. Miss Wasmuth

8. Introduction to Nature Recreation. II. 2 hr. Lecture and workshop course; methods and approaches of nature lore in recreation, including camping. Staff

10. Introduction to Dramatics in Recreation. II. 2 hr. Workshop course. Importance and organization of dramatics in a recreation program; adaptation to various phases of recreation to meet varied needs; methods of presentation. Staff

102. Program Planning. II. 2 hr. PR: Rec. 1. Fundamentals for general program planning; considering needs, facilities, age groups, local customs, climatic factors, etc. Planning involved in specific activities. Mr. Jeffrey

104. Functional Planning of Recreational Facilities. II. 2 hr. PR: Rec. 1. Problems and principles governing the planning for function and the effective usage of facilities in recreation. Adaptation of existing facilities for multiple use. Mr. Scherlacher

106. Leadership and Leadership Techniques. II. 2 hr. PR: Rec. 1. Meaning of leadership and its application to field of recreation. Mr. Jeffrey

122. Youth Organizations and Group Work in Recreation. II. 2 hr. PR: Rec. 1. National organizations such as 4-H Clubs, Y.W.C.A., Y.M.C.A., Boys Clubs, etc., will be studied as to how they fit into the community picture and what leadership approach they use. Examination of social group-work method. Mr. Scherlacher

145. Field Work. 3 hr. Recreation majors are required to have at least 8 weeks of supervised recreation leadership field work. Usually during summer following junior year. Arrangements under direction of adviser. Staff

201. Social Events in Recreation. I. 2 hr. PR: Rec. 1, 102, or equivalents. Workshop course. Planning and organizing of parties, banquets, dances, tours, picnics, and other special social programs. Actual social events as class projects will be staged on campus. Mr. Jeffrey

202. Philosophy of Recreation. II, SI. 3 hr. Intepretation of recreation as way of life, as basic part of living process, and as satisfaction of real human wants; importance to individual, community, and national life; social and economic significance. Mr. Scherlacher

204. Recreation Hobbies. I. 2 hr. PR: Rec. 1 or equivalent. Lecture and workshop. Value of hobbies to youth and adults; participation in various types of hobbies; methods of organization and presentation; importance and scope of hobbies. Mr. Scherlacher

206. Social Activities for School-age Groups. I. 2 hr. PR: Rec. 1, P.E. 66, or equivalent. Social activities in recreation adaptable to school-age recreation program. Mr. Jeffrey

264. Co-Recreation. 2 hr. Psychology of co-education group participation in recreational activities at the secondary-school age level. Workshop sessions in the various recreation interest areas applicable to teen-agers. Mr. Scherlacher

271. Administration of Camps and Preparation of Camp Counselors. II. 3 hr. PR: Rec. 1, 2, 3, or equivalents. Principles involved in modern camping program and methods of organization and administration of organized camps. Special problem in administration and program. Mr. Jeffrey

282. Administration of Recreation. I. 2 hr. General principles of administration; organization of administrative procedures in effective recreation service to the community. Study of legal aspects, finance, programs, public relations, facilities, etc. Open to Recreation majors who have completed first three years in the curriculum. Also, to graduate students who have had recreation leadership experience and consent of instructor. Mr. Scherlacher

283. Organization and Development of Industrial Recreation. II. 2 hr. PR: Rec. 1, 2, 3, 282, or equivalents. Primarily for students who have had some work or experience in recreation and are interested in a more complete knowledge of the field or plan to seek positions in industrial recreation. Mr. Tork

294. Recreation Leadership in Groups. S. 2 hr. PR: 5 hours general and educational psychology; Rec. 122 or its equivalent; and, at least 1 year working with teen-age children. For those working in voluntary agencies such as Y.M.C.A., Boy Scouts, Girl Scouts, etc. Also for those responsible for special-interest groups in extra-curricular activities. Mr. Scherlacher

295. Leadership in Nature Recreation. S. 2 hr. PR: 5 hours in biology, botany, or zoology, or combinations; Rec. 1, 2, 3, or its equivalent; and at least 1 year of working with teen-age children. For recreation leaders, camp counselors, and teachers who work with school-age children in camps or in special-interest groups. Mr. Scherlacher

296. American Folk Dance. II, S. 2 hr. PR: P.E. 132 or equivalent. Study of American Square and Round Dances and their place in recreation. Their origin and relationship to American culture and folklore. Analysis of techniques in leading and calling. Mr. Scherlacher

297. Music and Dramatics in Recreation. S. 3 hr. PR: Rec. 1, or 7 and 10, or 20 hours of Education or equivalent. The place of music and dramatics in recreation programs sponsored by municipal, voluntary and school agencies. How these two interest areas are woven into recreation programs with emphasis in the informal leadership approach. Also their use in camp programs. Visiting Instructors and Mr. Scherlacher

305. Human Interest Areas in Recreation Planning. 3 hr. PR: Recreation 202 or 20 hours of Education or equivalent. Exploration of the human interest areas which are the sources of recreation program content. Their adaptation to school and municipal recreation program planning. Mr. Scherlacher

306. Leadership in School-age Recreation Program. II. 2 hr. PR: Rec. 106 or 2 years' teaching experience. Leadership techniques used in various recreation activities of school-age groups. Analysis of differences between teaching and recreation leadership. Mr. Jeffrey

307. Community Recreation. 3 hr. PR: Rec. 202 or 20 hours of Education or equivalent. A study of problems related to the provision of adequate recreation service for a community. Standards and quality of recreation service; methods of measuring existing services and their coordination; municipal administrative problems; and community organization procedures. Course is designed for leaders in voluntary agencies, schools, churches, and municipal recreation organizations. Mr. Scherlacher

397. Individual Research Problems in Recreation. 1-4 hr. PR: Rec. 202 and P.E. 378. Opportunity for independent study and investigation of pertinent practical problems under supervision. For advanced students with practical experience. Mr. Scherlacher

Part III

THE STAFF

Staff members whose names are followed by an asterisk are employed in cooperation with the United States Department of Agriculture.

ALBERT SALISBURY ABEL, A.B., J.D., LL.M., S.J.D., *Professor of Law* (1946), 1940.

RICHARD ATKINS ACKERMAN, B.S., M.S., *Assistant Professor of Dairy Husbandry; Assistant Dairy Husbandman, Agricultural Experiment Station* (1946), 1928.

H. WILLIAM AHRENHOLZ, JR., B.A., B.S.E.M., E.M., *Assistant Professor of Mining Engineering* (1949).

BERTHA HAWLEY ALLEN, A.B., *Social Director, Retired* (1945), 1944.

HOWARD BUSHNELL ALLEN, PH.D., *Professor of Education* (1932), 1920.

LILLIAN ALLEN, B.S., M.A., *Instructor in English* (1946).

CHARLES HENRY AMBLER, PH.D., *Professor Emeritus of History* (1947), 1917.

GEORGIA MARIE AMICK, B.S., M.S., *Assistant Professor of Home Economics* (1950).

NELLIE PERREL AMMONS, A.B., A.M., PH.D., *Associate Professor of Botany* (1945), 1920.

AMIL DEAN ANDERSON, A.B., *Pool Custodian and Technician* (1952).

BERTIL G. ANDERSON, PH.D., *Professor of Biology* (1949), 1942.

CHARLES C. ANDERSON,* B.S., M.S., *Administrative Assistant and Lecturer, Agricultural Extension Division* (1946), 1914.

EVELYN PEARL ANDERSON, B.A., M.A., *Assistant Professor of Speech* (1949), 1947.

GERALD CLIFTON ANDERSON, B.S., M.S., PH.D., *Associate Professor of Animal Husbandry and Associate Animal Husbandman, Agricultural Experiment Station* (1950).

ORVAL JAMES ANDERSON, A.B., A.M., *Assistant Professor of English and Chairman of Freshman English* (1946), 1941. (Resigned March 11, 1952.)

HAROLD BLAIR ANDREW, B.S.E.E., *Instructor in Physics* (1950).

VERONICA ARMAGHAN, B.A., D.SC., *Teaching Assistant in Pathology* (1950).

WALTER WARDLAW ARMENTROUT, PH.D., *Professor and Head of Agricultural Economics and Rural Sociology; Agricultural Economist, Agricultural Experiment Station* (1936), 1924.

EDNA ARNOLD, M.A., *Dean of Women* (1939), 1935.

ROBERT RUSSELL ASHBURN, A.B., A.M., *Assistant Dean, College of Arts and Sciences; Professor of Romance Languages* (1951), 1925.

GEORGANNA ROMINE ASHFORD, A.B., *Assistant Dietitian, Men's Dining Hall* (1946).

PATRICIA LOU ASHWORTH, A.B., M.A., *Instructor in Romance Languages* (1950). (Resigned July 1, 1951.)

RICHARD ASPINALL, D.B., PH.D., *Director (retired) of Student Affairs and University Extension* (1948), 1930.

HORACE ATWOOD, M.S.AGR., *Professor Emeritus of Poultry Husbandry* (1931), 1897.

JO MATHER AULL, *Diploma from Cooper Union, Instructor (part-time) in Art* (1945).

VIDA A. BABCOCK, B.S., *Lecturer (part-time) in Nursing Education* (1951).

MORTON BACKER, B.B.A., C.P.A., *Associate Professor of Economics and Business Administration* (1947).

CHARLES H. BAER, B.SC., M.SC., *Instructor in Biology* (1948).

JOE P. BAIL, B.S., M.S., *Assistant Professor, Rural Organization* (1951).

ERVIN REO BAKER, JR., B.S.E.E., B.S., B.S.ENG'G ELECT., *Instructor in Agricultural Engineering* (1948). (Resigned July 1, 1951).

WILFRED HARMON BAKER, B.S.C.E., M.S.C.E., *Associate Professor of Civil Engineering* (1945), 1941.

ROBERT DODGE BALDWIN, A.B., M.A., PH.D., *Professor of Education Administration* (1933), 1931.

NELLIE BALIKER, A.B., M.A., *Teacher, Primary Grades, University Laboratory Elementary School* (1944).

CARROLL RAYBOURNE BALL, B.A., M.S., *Instructor in Anatomy* (1951).

HORACE LESLIE BARNETT, A.B., M.S., PH.D., *Professor of Mycology; Mycologist, Agricultural Experiment Station* (1948), 1945.

William Quentin Barnette, B.S., M.A., *Instructor in Physical Education, Freshman Basketball Coach, Freshman Baseball Coach and Assistant Football Coach* (1950).
William Derrick Barns, M.A., Ph.D., *Assistant Professor of History* (1947), 1940.
Robert Barrickman, M.S., *Technical Aid, Agricultural Experiment Station* (1949).
Elizabeth Ann Bartholomew, M.S., *Herbarium Assistant in Biology* (1941), 1938.
Edward Peter Bartkus, B.S., B.S.Ch.E., M.S.Ch.E., Ph.D., *Assistant Professor of Chemical Engineering* (1949), 1945. (Resigned February 29, 1952).
Barbara Grace Bartley, B.S., M.S., *Assistant Dean of Women* (1950).
Newton Moore Baughman, B.S., M.S., *Instructor and Assistant in Agronomy* (1949). (Resigned July 1, 1951.)
Thomas Bauserman, M.A., *Instructor in Mathematics* (1947).
Mary Catherine Bayles, A.B., M.A., *Assistant Registrar* (1946), 1929.
Philip Duvall Beall, *Master Sergeant, Assistant Professor of Military Science and Tactics* (1951).
Clarence Peter Bednarz, *Sergeant First Class, Assistant Professor of Military Science and Tactics* (1951).
Waldo E. Bell,* B.S.Agr.Eng'g, *Agricultural Engineer, Agricultural Extension Division* (1945).
John Benard, B.S., *Captain, Assistant Professor of Military Science and Tactics, Military Head of Engineer Section of the Ground Forces Detachment.*
Herald D. Bennett, Ph.D., *Assistant Professor of Biology* (1949), 1948.
Jonathan McCauley Bennett, *Commercial Pilot, Certified Airplane and Engine Mechanic, Flight Examiner, Flight Instructor,* (1951).
Albert Francis Beres, B.S., *Instructor in Economics and Business Administration* (1949).
Genevieve Clulo Berg, A.B., A.M., *Associate Professor of Plant Pathology, Associate Plant Pathologist, Agricultural Experiment Station* (1948), 1932.
Gordon Alger Bergy, M.S., Ph.C., *Professor of Pharmacy* (1916), 1913.
Avis Berglund, M.A., *Instructor in Physical Education* (1949). (Resigned July 1, 1951.)
Betty Emeline Berlin, A.B. in Ed., B.S. in L.S., *Junior Cataloguer, Library* (1948).
Charity White Beto, M.A., *Assistant Professor of Physical Education* (1949), 1946.
Bond Lose Bible, B.S., M.S., *Instructor in Education and Teacher of Vocational Agriculture, University High School* (1947).
Carolyn Gray Bickley, B.S., M.S., *Instructor in Home Economics* (1951).
Jay Edgar Billingsley, B.S.C.E., *Research Engineer, Engineering Experiment Station* (1945). (Resigned July 31, 1952.)
Robert Lee Birch, B.S., M.S., *Instructor in Zoology* (1948).
George Herman Bischoff, B.S., M.A., Ph.D., *Assistant Professor of Chemistry* (1951).
C. Franklin Bishop,* M.S., Ph.D., *Plant Pathologist and Entomologist, Agricultural Extension Division* (1944).
Carter Richard Bishop, M.A., Ph.D., *Associate Professor of English* (1945), 1929.
Robert Howell Black, B.S., M.S., *Associate Professor of Animal Husbandry; Associate Animal Husbandman, Agricultural Experiment Station* (1947), 1940.
May Carter Blackstock, M.A., *Social Director, Woman's Hall* (1950).
James Karl Bletner, B.S.Agr., M.S., *Assistant Professor of Poultry Husbandry, Assistant Poultry Husbandman, Agricultural Experiment Station* (1946), 1935.
Ruth N. Blodgett, A.B., *Documents Librarian* (1951), 1932.
Robert Stuart Boal,* B.S., M.S., *Economist in Marketing, Agricultural Extension Division* (1946), 1943.
Sallie Shrewsbury Board, A.M., *Instructor in English* (1945).
Anna Mildred Boggs,* A.B., *Associate State Leader, Home Demonstration Work, Agricultural Extension Division* (1936), 1927.
Ira Brooks Boggs,* *State Boys' Club Agent, Agricultural Extension Division* (1933), 1926.
Russell K. Bolton, Jr., LL.B., *Assistant to Director of Intercollegiate Athletics* (1949), 1945.
Donovan Hiner Bond, B.S.J., M.A., *Assistant Professor of Journalism* (1949), 1946.
Donald Merle Bondurant, B.E.M., *Assistant Professor of Mining Engineering* (1949). (Resigned September 1, 1951.)

Lela Stump Bonner, B.S., *Technician in Pathology,* (1949), 1946. (Resigned February 15, 1952.)

William Alfred Bonsall, B.S., M.S., *Instructor in Physical Education* (1950).

George Paul Boomsliter, M.S.C.E., *Professor Emeritus of Mechanics; Engineer, Engineering Experiment Station* (1949), 1920.

Kenneth Ray Boord,* *Assistant Editor, Agricultural Extension Division* (1943).

Winifred M. Booth, B.S.Ed., M.A., *Assistant to Dean, College of Education* (1948), 1930.

Andrew James Bootz, B.S.M.E., *Instructor in Mechanical Engineering* (1949). (Resigned July 1, 1951.)

Amos L. Bossa, *Captain, Assistant Professor of Air Science and Tactics* (1950). (Resigned September 1, 1951.)

Jennie Bougiiner, A.B., *Extension Assistant Library* (1946), 1915.

Herman H. Bowers,* B.S.Agr., *Assistant Director, Agricultural Extension Division* (1951), 1929.

Betty Boyd, A.B., *Executive Secretary, Young Women's Christian Association, Young Men's Christian Association* (1948).

Sam Boyd, Jr., B.D.A., M.F.A., *Assistant Professor of Speech* (1946), 1943.

Leslie Emil Bradley, A.B., *Instructor in Mining Extension* (1945).

James Paul Brawneb, A.B., A.M., Ph.D., *Associate Professor of English, Chairman of Administrative Committee* (1945), 1935.

George H. Breiding, B.S.Agr., *Naturalist, Agricultural Extension Division, Oglebay Park, Wheeling, W.Va.,* (1950).

Thomas John Brennan, B.S. in Ed., M.A., *Instructor in Education and Teacher of Industrial Arts, University High School* (1948), 1941.

Foster Eugene Brenneman, B.A., M.A., *Instructor in German* (1949).

Harold Frederick Brenneman, B.S., *First Lieutenant, Assistant Professor of Air Science and Tactics* (1950).

Vito Joseph Brenni, A.B., M.A., *Junior Librarian* (1951).

Charles L. Brewster, *Technical Sergeant, Assistant Professor of Military Science and Tactics* (1947). (Resigned October 31, 1951.)

Anna Brochick, M.A., *Instructor in Education and Teacher of Core Curriculum, University High School* (1938).

Maurice Graham Brooks, A.B., M.S., *Professor of Wildlife Management; Forester, Agricultural Experiment Station* (1947), 1923.

Christopher George Brouzas, A.B., A.B. in Ed., A.M., PhD., *Professor and Head of Classics* (1935), 1926.

Betty Gallagher Brown, A.B., *Law Librarian* (1950).

Bevelle T. Brown, *Major, Assistant Professor of Military Science and Tactics* (1950).

Clifford Woodrow Brown, B.S., M.A., *Assistant Professor of Music and Education* (1947), 1942.

Donald Peyton Brown, B.S.Agr., M.S.Agr. Engr., *Assistant Professor of Agricultural Engineering; Assistant Agricultural Engineer, Agricultural Experiment Station* (1949). (On leave July 1, 1951 to January 1, 1953.)

Jerry Cameron Burchinal, B.S.C.E., M.S.C.E., *Instructor in Civil Engineering* (1946). (On military leave September 1, 1950.)

Londo Henderson Brown, A.B., LL.B., *Assistant Professor of Law* (1950).

Mary Ellen Brown, R.N., *Nurse in the University Health Center* (1951).

Robert Nathan Brown, A.B., *Instructor in Physical Education and Athletics, Head Basketball Coach and Head Tennis Coach* (1950).

Sara Ann Brown, B.S., M.S., Ph.D., *Associate Professor of Home Economics Education* (1948), 1946.

David Royal Browning,* M.A., *Assistant Agronomist in Charge, Ohio Valley Substation (P. O. Pt. Pleasant)* (1947).

James Oliver Buchanan, B.A., M.S., Ph.D., *Assistant Professor of Physics* (1948).

Jerry Cameron Burchinal, B.S.C.E., M.S.C.E., *Instructor in Civil Engineering* (1946). (On military leave September 1, 1950.)

Othmar J. Burger, M.S., Ph.D., *Assistant Professor of Agronomy; Assistant Agronomist Agricultural Experiment Station* (1950).

Barbara Carroll Burhans, A.B., M.S.L.S., *Junior Reference Librarian* (1951).

Robert Barker Burrows, A.B., M.A., *Assistant Professor of Speech* (1948).
Mary Catherine Buswell, B.A., M.A., *Instructor in English* (1948), 1947.
Charles Edward Butler, B.A., B.S. in L.S., M.A. in L.S., *Librarian* (1949).
Russell Clarke Butler, B.S.Agr., M.S., Ph.D., *Associate Professor of Rural Organization* (1948), 1944.
Jack Burns Byers, B.S.F., *Assistant Professor of Forest Utilization; Assistant Forester, Agricultural Experiment Station* (1946), 1940.
James Morton Callahan, Ph.D., *Professor Emeritus of History and Political Science* (1940), 1902.
Everett P. Cameron, B.A., M.A., *Instructor in German* (1949). (On military leave September 1, 1950.)
Thomas Corwith Campbell, Jr., Ph.D,. *Assistant Professor of Economics and Business Administration* (1948).
Charles M. Canby, A.B., M.S., *Instructor in Bacteriology* (1949).
Jack Oren Cantrell, B.S.For., *Instructor in Forestry* (1951), 1950.
William John Carl, *Instructor Emeritus in Foundry Practices and Pipe Fitting* (1945), 1920.
Leo Carlin, A.B., LL.B., *Professor of Law* (1921), 1916.
Neil Alan Carrier, B.A., M.A., *Instructor in Psychology* (1950).
Joseph Lincoln Cartledge, Ph.D., *Professor of Genetics; Geneticist, Agricultural Experiment Station* (1949), 1936. (Deceased January 25, 1952.)
John Caruso, A.B., M.A., Ph.D., *Assistant Professor of History, University Extension Division* (1950).
Carol Rae Casto, A.B., B.S. in L.S., *Junior Librarian* (1949). (Resigned July 31, 1951.)
Carl Henry Cather, B.S.M.E., M.S.M.E., *Professor and Head of Mechanics; Engineer, Mechanics, Engineering Experiment Station* (1948), 1916.
Harold Malcolm Cather, B.S.M.E., M.E, M.S.M.E., *Professor and Head of Mechanical Engineering; Mechanical Engineer, Engineering Experiment Station* (1945), 1919.
Saul William Chaikin, B.A., M.S., Ph.D., *Assistant Professor of Chemistry* (1949). (Resigned September 1, 1951.)
Simon B. Chandler, A.B., A.M., M.D., *Professor and Head of Anatomy* (1935).
Lillie Louise Chapman, A.B., *Instructor in Physical Science* (1948).
Louis Watson Chappell, M.A., *Associate Professor of English* (1928), 1923.
William Henry Childs, B.S., M.S., Ph.D., *Associate Professor of Horticulture; Associate Horticulturist, Agricultural Experiment Station* (1944), 1931.
Oliver Perry Chitwood, Ph.D., LL.D., *Professor Emeritus of History* (1946), 1907.
Raymond John Christman, B.A., M.A., *Instructor in Psychology* (1950).
Clarence Edmund Clark, Jr., B.S.Com., M. in Let., *Teacher and Coordinator of Distributive Education, University High School* (1949).
Friend Ebenezer Clark, Ph.D., *Professor Emeritus of Chemistry* (1947), 1914.
Thomas Baird Clark, B.S.A., M.S., *Associate Professor of Poultry Husbandry; Associate Poultry Husbandman, Agricultural Experiment Station* (1946), 1927.
James Harris Clarke, M.S.Agr., *Associate Professor of Agricultural Economics; Associate Agricultural Economist, Agricultural Experiment Station* (1947), 1939.
John D. Clarkson, B.F.A., M.A., *Assistant Professor of Art* (1951), 1948.
Martin Theodore Cobin, B.F.A., M.A., *Assistant Professor of Speech* (1947).
Charles Nelson Cochran, A.B., M.S., *Instructor in Mathematics* (1951).
Eloise Snowden Cofer,* A.B., M.S., *Specialist in Foods and Nutrition, Agricultural Extension Division* (1942).
Margaret Buchanan Cole, A.B., Ph.D., *Associate Professor of Mathematics* (1951), 1938.
George Henry Colebank, M.A.,*Associate Professor Emeritus of Education* (1928).
Raymond W. Coleman, B.B.A., M.B.A., Ph.D., *Professor and Head of Economics and Business Administration, Director of Business Research* (1948).
Armand Rene Collett, Ph.D., *Dean, College of Arts and Sciences; Professor of Chemistry* (1951), 1924.
Henry D'Alton Collins, *Assistant Professor of Law* (1950). (On leave June 1, 1951 to September 1, 1952.)
Clyde Lemuel Colson, A.B., LL.B., S.J.D., *Professor of Law* (1938), 1935.
Rachel Hartshorn Colwell, M.A., *Professor Emeritus of Home Economics and Education* (1935), 1910.

Robert Cameron Colwell, A.B., M.A., Ph.D., D.Sc., *Professor and Head of Physics* (1924), 1918.

Kermit A. Cook, M.A., Ph.D., *Associate Professor of Education and Director of Student Teaching* (1946), 1935.

Ruth Elizabeth Cook, B.S., M.S., *Instructor in Home Economics* (1951).

Cecil H. Cooksey, *Sergeant First Class, U.S. Army, Assistant Professor of Military Science and Tactics* (1950). (Resigned November 20, 1951.)

Russell B. Cooper, B.S.E.E., *Lieutenant Colonel, Signal Corps, Assistant Professor of Military Science and Tactics* (1947). (Resigned September 1, 1951).

Mullen Ogle Coover, A.B., M.S., Ph.D., *Assistant Professor of Biochemistry* (1950).

Lucy May Coplin, A.M., *Instructor Emeritus of Education* (1949), 1925.

Walter Lee Coplin, Mus.B., M.Mus., *Instructor in Music* (1947).

Earl Lemley Core, Ph.D., *Professor and Head of Biology* (1948), 1928.

Wendell Hillis Cornetet, Jr., B.S.E.E., *Instructor in Electrical Engineering* (1948). (Resigned July 1, 1951.)

Pansy Olive Cornwell, *Assistant to Social Director, Woman's Hall* (1944).

Thomas Edward Corrigan, B.Ch.E., M.S., Ph.D., *Assistant Professor of Chemical Engineering* (1948). (Resigned September 1, 1951.)

Earl Eugene Corum, M.S., *Instructor in Physical Education; Freshman Football Coach* (1950).

Hazel Ruth Coutts, M.A., *Instructor in Economics and Business Administration* (1943).

Forrest B. Crane, A.B., *Director of Athletic Publicity, Intercollegiate Athletics* (1947), 1942. (Resigned September 1, 1951.)

Carolyn Bickley Craven, B.S., M.S., *Instructor in Child Development, Director of Nursery School* (1951).

Robert T. Crawford, A.M., *Associate Professor of Education, University Extension* (1948).

Flora Leigh Cree,* B.S., *Assistant Editor, Agricultural Extension Division* (1951).

Benjamin Franklin Creech,* B.S.Agr., *Animal Husbandman, Agricultural Extension Division* (1940), 1917.

David R. Creel, *Photographer, Agricultural Experiment Station; and Assistant Editor, Agricultural Extension Division* (1947).

Katherine Ann Creel, A.B., B.S.L.S., *Junior Circulation Librarian* (1951).

John Reginald Cresswell, B.A., Ph.D., *Professor of Philosophy* (1949), 1929.

George Franklin Crewe, B.S.Ch.E., M.S.Ch.E., *Instructor in Chemical Engineering* (1948).

Stephen Fuller Crocker, A.B., A.M., *Professor of English; Chairman of Integrated Studies* (1948), 1931.

Aureal T. Cross, B.A., M.A., Ph.D., *Assistant Professor of Geology* (1949).

Orrin Hartshorn Cross, A.B., M.S., *Instructor in Psychology* (1951).

Whitney Rogers Cross, B.A., M.A., Ph.D., *Assistant Professor of History* (1949).

Allen B. Cunningham, B.A., M.A., Ph.D., *Assistant Professor of Mathematics* (1946), 1935.

Cornelius Jett Cunningham, B.S.Agr., *Assistant Animal Husbandman in Charge of Reymann Memorial Farm* (P. O. Wardensville) (1943).

Louise Fisher Cunningham, B.S.Phar., *Pharmacist, University Health Service* (1949). (Resigned July 1, 1951.)

Quin Fisher Curtis, A.B., A.M., Ph.D., *Professor and Head of Philosophy and Psychology* (1949), 1941.

Andrew Jackson Dadisman, Ph.D., *Professor Emeritus of Economics and Business Administration* (1951), 1914,

Jesse LeRoy Dally, B.S., M.A., *Instructor in Geology* (1949), 1948.

Arleigh Lee Darby, A.M., Litt.D., *Professor Emeritus of Romance Languages* (1950), 1910.

Patricia Ann Daugherty, A.B., M.A., *Instructor in Biology* (1948).

Hannibal Albert Davis, Ph.D., *Professor and Head of Mathematics* (1947), 1921.

James G. Davis, *Master Sergeant, Assistant Professor of Military Science and Tactics* (1951).

Kathryn Saunders Davis, B.A., M.A., *Instructor in Psychology* (1949), 1947.

Mildred Jean Davis, A.B., *Assistant in Housing Research* (1951).
Robert Leroy Davis, A.B., A.M., *Principal, University Laboratory Elementary School* (1948).
Roland Parker Davis, M.C.E.,Ph.D., *Dean, College of Engineering; Professor of Structural Engineering; Structural Engineer, Engineering Experiment Station* (1945), 1911.
Oreta Holbert Dawson, A.M., *Instructor in English* 1946.
Eugene Peyton Deatrick, Ph.D., *Mechanician, Chemistry* (1950), 1922.
William John Deegan, A.B., M.A., *Instructor in English* (1950), 1948. (Resigned July 1, 1951.)
Charles Leroy Delaney, *Instructor in Machine Shop, Mechanical Engineering* (1950). 1946.
Patricia Ann Dennison, B.S., *Technician in Pathology* (1949).
Thomas Richard D'Errico, B.S.C.E., *Instructor in Civil Engineering* (1950).
Ralph Walter Detrick, M.S., *Instructor in Sociology* (1950).
A. Page Dickens, *Instructor in Mining Extension* (1949), 1937.
Edmund Charles Dickinson, A.B., J.D., *Professor of Law* (1921).
Montelle Dietrich, B.S., M.S., *Assistant Professor of Home Economics* (1941), 1929.
William A. Dilgard, A.B., M.A., *Instructor (part-time) in History* (1951), 1946.
Stuart Parker Dillon, *Master Sergeant, Assistant Professor of Military Science and Tactics* (1950).
Gideon Stanhope Dodds, B.A., M.A., Ph.D., *Professor Emeritus of Histology and Embryology* (1951), 1918.
Robert Tucker Donley, A.B., LL.B., *Professor (part-time) of Law* (1947), 1929.
Carleton Paul Dorsey,* B.S.Agr., M.S.Agr., *Associate State 4-H Club Leader, Agricultural Extension Division* (1927).
Carl Kester Dorsey, A.B., M.S., Ph.D., *Professor of Entomology; Entomologist, Agricultural Experiment Station* (1952).
Catherine McKelvey Dorsey, A.B., M.A., *Instructor in Education and Teacher of Mathematics, University High School* (1948), 1943.
David William Dowdell, A.B., A.M., *Instructor in English* (1947), 1946.
Evelyn Mackey Dowling, B.S.Ed., *Teacher of Core Curriculum, University High School* (1948). (Resigned September 1, 1951.)
John Dixon Downes, Jr., B.S.Agr., *Instructor in Horticulture; Assistant in Horticulture, Agricultural Experiment Station* (1943). (Resigned July 1, 1951.)
Elizabeth E. Downey, B.S. in Ed., B.S. in L.S., *Chief Circulation Librarian* (1951), 1949.
John Philip Downing, Jr., *First Lieutenant,* B.S., *Assistant Professor in Military Science and Tactics* (1952).
James Benedict T. Downs, M.E., M.S., *Professor of Machine Design, Mechanical Engineering* (1948).
William Smith Downs, B.S.C.E., C.E., *Professor (part-time) of Civil Engineering* (1935), 1931.
Barbara Adeline Drainer, A.B., M.A., *Instructor in Art* (1952).
John William Draper, Ph.D., *Professor of English* (1929). (On leave January 15, 1952 to August 1, 1952.)
Everette Charles Dubbe, B.S.E.E., *Assistant Professor of Electrical Engineering* (1949), 1947.
R. Franklin Dugan,* B.S.Agr., B.S.F., M.F., *Assistant Professor of Wildlife Management; Specialist in Wildlife Management, Agricultural Extension Division, Assistant Forester, Agricultural Experiment Station* (1943), 1942.
Carl Ray Duncan, B.S.C.E., *Instructor in Civil Engineering* (1951), 1948.
Maryella Durigg, A.B., in L.S., *Chief Circulation Librarian* (1948), 1946. (Resigned July 31, 1951.)
Robert Barclay Dustman, Ph.D., *Dean of the Graduate School* (1949), 1924.
Florence Ann Duval, A.B., M.A., *Instructor in Romance Languages* (1950). (Resigned July 1, 1951.)
Katherine Claire Dwyre, A.B., B.S., *Chief Acquisition Librarian, Library* (1949), 1947.
Ann Culley Dye, B.S., *Dietitian, Woman's Hall* (1937).

Arthur Pingree Dye, B.S., M.S.Agr., *Assistant Professor of Horticulture; Assistant Horticulturist, Agricultural Experiment Station* (1940), 1923.

Neil Dykema, *Staff Sergeant, Assistant Professor of Air Science and Tactics* (1951).

Jason Clark Easton, Ph.D., *Professor of History* (1949), 1939.

Robert Howard Edele, B.S.E.M., *Assistant Research Engineer, Engineering Experiment Station* (1950).

William August Ehrgott, B.S., M.D., *Instructor (part-time) in Pathology* (1949).

Donald Wayne Eicher, A.B., M.S., *Instructor and Teacher of Physical Education, University High School* (1946), 1943.

Joseph Clarence Emch,* B.S.Agr., *Assistant Animal Husbandman, Agricultural Extension Division* (1949), 1947.

Roy E. Emerson, B.S., *Assistant Professor of Agricultural Engineering; Assistant Agricultural Engineer, Agricultural Experiment Station* (1946), 1940.

Edward Emley, B.S., M.A., *Instructor in English* (1949).

Clyde Neville English, B.A., M.S.M., *Assistant Professor of Music* (1946), 1945.

Thomas Edson Ennis, Ph.D., *Professor of History* (1946), 1930.

Homer Clarke Evans, B.S.Agr., M.S.Agr., *Assistant Agricultural Economist, Agricultural Experiment Station* (1949). (On leave July 1, 1951 to June 30, 1952.)

Harold Vincent Fairbanks, B.S., M.S., *Associate Professor of Metallurgical Engineering; Associate Metallurgical Engineer, Engineering Experiment Station; Supervisor, Armstrong Cork Company Fellowship on Metallurgy* (1949), 1946.

Henry Wilford Fairchild, B.S., M.S., Ph.D., *Assistant Professor of Agronomy and Assistant Agronomist, Agricultural Experiment Station* (1951).

George R. Farmer, LL.B., *Lecturer (part-time) in Economics and Business Administration* (1946).

Stanley Farr, B.S.Ch.E., M.S., *Instructor in Physics* (1947).

Marja Steadman Fear, M.A., *Associate Professor of Speech* (1945), 1920.

Eston K. Feaster, M.A., *Field Agent, College of Education* (1949).

George Andrew Federer, Jr., A.B., A.M., *Instructor in Education; Teacher of Physical Science, University High School* (1934), 1928.

James Ernest Fike, B.S., *Instructor in Dairy Manufacturing* (1947).

Lincoln Ted Fish, B.S., Ed.D., *Assistant Professor of Elementary Education* (1951).

Leo Fishman, B.A., M.A., Ph.D., *Associate Professor of Economics and Business Administration* (1947).

Homer Milton Fizer, B.S., M.S., *Instructor in Physical Education; Teacher of Physical Education, University High School* (1947), 1940.

Clifford Auten Flanders, M.A., *Assistant Agricultural Biochemist, Agricultural Experiment Station* (1945). (Resigned October 15, 1951.)

John Morgan Foley, M.D., *Physician, University Health Service* (1951).

Raymond Horace Forbes, A.B., A.M., *Instructor in German* (1950). (Resigned July 1, 1951.)

O. Rex Ford, Ph.D., *Professor of Physics* (1943), 1925.

Floyd E. Forsythe, B.S., M.S., *Instructor in Mathematics* (1951).

Ruel E. Foster, A.B., M.A., Ph.D., *Assistant Professor of English* (1946), 1942.

Walter D. Foster, A.B., M.A., Ph.D., *Associate Professor and Associate Agricultural Statistician; Agricultural Experiment Station* (1951).

Earl John Franzel, B.S.E.M., *Instructor in Mechanics* (1949). (Resigned July 1, 1951.)

Carl Maynard Frasure, Ph.D., *Professor and Head of Political Science, Director of Bureau for Government Research* (1940), 1927.

Emile George Frere, B.S., M.A., *Instructor in Romance Languages* (1949), 1947.

Ray Jerome Friant,* B.S., *Agronomist, Agricultural Extension Division* (1929), 1922.

Harry Marion Fridley, Ph.D., *Professor and Head of Geology* (1951), 1928.

Harold Herman Full, A.B., A.M., *Instructor in Education and Teacher of English, University High School* (1947).

Daniel Lee Fullmer, *Mechanician, Physics* (1918), 1915.

Margaret Jean Fulton, Ed.D., *Assistant Professor of Education* (1950).

Thompson R. Fulton, M.A., *Associate Professor and Acting Head of Social Work* (1948), 1946.

Elaine Peaslee Funk, R.N., *Nurse, University Health Service* (1952).

Patrick Ward Gainer, M.A., Ph.D., *Associate Professor of English* (1950), 1946.
Mannon E. Gallegly, Jr., Ph.D., *Assistant Professor of Plant Pathology; Assistant Plant Pathologist, Agricultural Experiment Station* (1949).
Alfred F. Galli, B.S.Ch.E., M.S.Ch.E., *Instructor in Chemical Engineering* (1946).
Sidney Longman Galpin, Ph.D., *Professor of Hydrology; Hydrologist, Agricultural Experiment Station* (1938), 1927.
Budd Leslie Gambee, A.B., A.B. in L.S., M.A. in L.S., *Chief Audio-visual Aids Librarian* (1948). (Resigned September 30, 1951.)
Mary Virginia Garee, B.S.Med.Tech., *Medical Technician, University Health Service* (1951), 1950.
Dean Ogden Garlow, B.A., A.M. in L.S., *Senior Reference Librarian* (1950).
Helen Louise Garrett, B.S., *Instructor and Assistant Teacher Trainer in Home Economics* (1950).
Ann Garver, B.A., *Instructor in Sociology* (1949). (Resigned May 31, 1950.)
Eleanor Elizabeth Gates, A.M., *Instructor in Education; Teacher of Social Studies, University High School* (1945), 1943. (On leave September 1, 1950 to May 31, 1951.)
Frederick Linck Geiler, B.S.Phar., M.S., *Associate Professor of Pharmacy* (1950), 1928.
Rose Marie Gerard, R.N., *Nurse in the University Health Service* (1950).
Clara Fay George, B.S.Pharm., *Pharmacist, University Health Service* (1951).
Harold Allan Gibbard, B.A., M.A., Ph.D., *Professor and Head of Sociology* (1948).
John A. Gibson, Jr., Ph.D., *Associate Professor of Chemistry* (1945), 1926.
Frank K. Gibson, Jr., A.B., M.A., *Instructor in Political Science* (1951), 1948.
Betty Jo Gilmore, B.S., *Instructor in Biochemistry* (1948), 1947. (Resigned July 1, 1951.)
Russell Henderson Gist,* B.S.Agr., *State Agent, Agricultural Extension Division* (1933), 1924. (On leave July 1, 1950 to June 30, 1952.)
Joseph Clay Gluck, B.A., B.D., *Director of Student Affairs* (1948), 1943.
Helen Louise Ambler Godfrey, M.S., *Instructor in Mathematics* (1948), 1946. (Resigned July 1, 1951.)
William Howard Godfrey, A.B., *Teacher of Biology, University High School* (1950).
Elizabeth J. Goodall, M.A., *Associate Professor of History, University Extension* (1945).
Allen Wright Goodspeed, B.S., M.F., *Professor of Forest Management; Forester, Agricultural Experiment Station* (1949).
Kathryn Ellen Gottshall, B.F.S., M.A., *Instructor in Speech* (1950). (Resigned, September 1, 1951.)
Anthonie J. Goudemond, *Master Sergeant, Assistant Professor of Military Science and Tactics* (1949).
Edwin Gould, B.S.Agr., *Entomologist in Charge of University Experiment Farm* (P. O. Kearneysville) (1946).
Joseph Paul Graham, B.S., M.Litt., *Instructor in Economics and Business Administration* (1949).
Eugene T. Gray, A.B., M.A., *Instructor in Speech* (1951).
Thomas Davis Gray,* B.S.Hort., *Landscape Architect, Agricultural Extension Division* (1943), 1920.
Robert J. Greene, B.S., M.A., *Instructor in Speech* (1951).
Thomas Young Greet, M.A., *Instructor in English* (1950).
Lloyd Raymond Gribble, Ph.D., *Professor of Zoology and Pre-Medicine Adviser* (1949), 1929.
Grace Margaret Griffin, M.A., *Acting Dean, School of Physical Education and Athletics, Professor of Physical Education* (1951), 1923.
George Walter Grow, B.S.M.E., M.S., *Associate Professor of Drawing and Machine Design* (1945), 1912.
Leo Louis Grow, *Master Sergeant, Assistant Professor of Air Science and Tactics* (1951).
Robert Stephen Grumbach, B.S.E.E., *Instructor in Electrical Engineering* (1948).
John Behny Grumbein, B.S.M.E., M.M.E., *Professor Emeritus of Power Engineering* (1945), 1903.

Robert Carl Gunton, B.A., M.A., Ph.D., *Assistant Professor of Physics* (1949).
Richard O. Gustafson, B.S.F., M.F., *Associate Forester, Agricultural Experiment Station* (1950).
Albert C. Gwynne, A.B., M.S., *Head Trainer, Intercollegiate Athletics; Instructor in Physical Education* (1948), 1933.
William Raymond Hale, *First Lieutenant, Air Force, Assistant Professor of Air Science and Tactics* (1950), 1948. (Resigned May 31, 1951.)
Arthur A. Hall, B.S.M.E., *Professor Emeritus of Electrical Engineering* (1951), 1916.
Betty Snyder Hall, A.B., *Instructor in Speech* (1950), 1940. (Resigned January 15, 1952.)
George A. Hall, Jr., Ph.D., *Assistant Professor of Chemistry* (1950).
James L. Hall, Ph.D., *Associate Professor of Chemistry* (1950), 1946.
John Delmar Hallett, *Technical Sergeant, Assistant Instructor in Air Science and Tactics* (1951).
Frances E. Van Norman Hamilton, B.S. in Ed., *Reference Assistant, Library* (1949). (Resigned August 31, 1951.)
Edwin W. Hanczaryk, A.B., M.A., *Assistant Professor of Economics and Business Administration* (1951).
Roscoe Elton Hanna, Jr., B.S., *Supervisor, Industrial Extension; Assistant Director, Fire Service Extension* (1949), 1944.
Kermit A. Harcos, *Colonel, Professor and Head of Air Science and Tactics* (1951).
Clara Reed Hardesty, B.M., *Social Director, Terrace Hall* (1950), 1945.
Thomas Porter Hardman, M.A., J.D., *Dean of the College of Law; Professor of Law* (1931), 1913.
Charles Henry Hare, *Master Sergeant, Assistant Professor of Military Science and Tactics* (1951).
John Harold Hare, B.S.A., M.S., Ph.D., *Assistant Professor of Biochemistry; Assistant Biochemist, Agricultural Experiment Station* (1949).
Douglas Henry Harnish, Jr., B.S.E.M., *Assistant Petroleum Research Engineer, Engineering Experiment Station* (1952).
Stephen Harrick, M.A., *Assistant Professor of Physical Education; Head Coach of Baseball and Wrestling* (1947), 1924.
Burritt C. Harrington, Ed.D., *Associate Professor of Education, University Extension* (1947).
Thomas Luther Harris, Ph.D., *Professor Emeritus of Sociology* (1947), 1921.
Weldon Hart, B.S., M.Mus., Ph.D., *Director of the School of Music* (1949).
Charles Henry Hartley,* B.S.Agr., *State Agent, Agricultural Extension Division* (1933), 1914.
James P. Harvey, B.S.Ch.E., *Instructor (part-time) in Chemical Engineering* (1952).
Ted Robert Hash,* B.S., *Poultryman, Agricultural Extension Division* (1945), 1937.
David B. Hathaway, B.A., B.S., *Instructor in Biology, University High School* (1950).
Archie O. Haugland, B.M.Ed., B.M., M.M., *Instructor in Music* (1949), 1946.
Fabry L. Hawk, *Medical and X-Ray Technologist* (1935), 1933.
Roy M. Hawley, A.B., *Director, Intercollegiate Athletics* (1938), 1935.
Isabel Ray Hayes, *Social Director Emeritus* (1949), 1923.
Jean Marshall Hayhurst, B.S.P.E., M.S.P.E. *Instructor in Education and Teacher of Physical Education, University High School* (1950), 1947.
Joseph Lester Hayman, Ph.C., M.S., *Dean of the College of Pharmacy; Professor of Pharmacognosy* (1936), 1919.
Mary Kathleen Headlee, B.S., M.S., *Instructor in Education and Teacher of Home Economics, University High School* (1950), 1949.
Milton Tidd Heald, M.A., Ph.D., *Assistant Professor of Geology* (1949), 1948.
Helen M. Heater, M.S., *Instructor in Mathematics* (1948), 1946. (Resigned July 1, 1951.)
Betty Lee Heavener, A.B., *Junior Circulation Librarian* (1950). (Resigned August 21, 1951.)
Virginia Skaggs Hedrick, B.S., *Assistant Dietitian, Woman's Dining Hall* (1950), 1949.
Gerald Heebink,* B.S., M.S., *Dairyman, Agricultural Extension Division* (1935).
Edgar Frank Heiskell, Jr., M.D., *Assistant Physician (one-half time) University Health Service* (1951).

Harry Oram Henderson, B.S., M.S., Ph.D., *Professor and Head of Dairy Husbandry; Dairy Husbandman, Agricultural Experiment Station* (1928), 1919.
James H. Henning, Ph.D., *Professor and Head of Speech* (1945).
Robert Lee Henrickson, B.S., M.S., *Assistant Professor of Animal Husbandry; Assistant Animal Husbandman, Agricultural Experiment Station* (1949), 1947. (Resigned July 31, 1951.)
George S. Henry, C.A.A., Commercial Pilot Rating, *Flight Supervisor* (1944).
Lyle Eddy Herod, A.B., M.S., *Assistant Registrar* (1948), 1947.
Francisco Herrera y Sanchez, A.B., M.A., *Assistant Professor of Romance Languages* (1950), 1946.
Donald Atwood Herring, B.S.Pharm., *Instructor in Pharmacology* (1948).
James Blake Hickman, B.S., M.S., Ph.D., *Assistant Professor of Chemistry* (1951), 1941.
James Thomas Hicks, A.B., B.S., M.S., Ph.D., *Assistant Professor of Pathology* (1950).
John Lewis Hicks, Jr., A.B., A.M., *Instructor in English* (1949).
Cecil Blaine Highland, Jr., A.B., LL.B., *Assistant Professor (part-time) of Law* (1949), 1940.
Charles Wickline Hill, B.S.Agr., M.A., Ph.D., *Professor and Head of Rural Organization, Professor of Education* (1951), 1937.
Hubert Hill, M.S., *Professor Emeritus of Chemistry* (1928), 1911.
Lawrence Benjamin Hill, Ph.D., *Professor Emeritus of Education* (1920), 1918.
Lydia Irene Hinkel, Mus.M., *Associate Professor of (Public-school) Music* (1939), 1921.
Evelyn P. Hite, A.B., *Cataloguer (limited service), Library* (1945), 1922.
Milford L. Hobbs, M.D., *Professor and Head of Pathology and Clinical Pathology* (1947).
Willard Wellington Hodge, M.A., *Professor Emeritus of Chemical Engineering* (1945), 1921.
Janice N. Hoff, B.S., M.A., *Social Director, Terrace Hall* (1950).
Ruth Wheeler Holden, A.M., *Instructor in English* (1943).
Susan Montgomery Holden, A.B., M.A., *Instructor in English* (1946).
Donald E. Hollen,* B.S.F., *Assistant Forester, Agricultural Extension Division, Buckhannon* (1949).
Torkel Holsoe, M.F., *Professor of Silviculture; Forester, Agricultural Experiment Station* (1948), 1938. (On leave August 1, 1951 to June 30, 1952.)
Frederick John Holter, Ph.D., *Professor of Physical Education* (1948), 1947.
Merle Leland Hoover, B.S.M.E., *Instructor of Mechanics* (1949), 1948.
William F. Hopper, Jr., *Major, Air Force, Professor of Air Science and Tactics* (1949).
Jeannette Carol Hosbach,* B.S., *Associate State Girl's Club Agent, Agricultural Extension Division* (1951).
Agnes B. Hovee, B.A., M.A., *Assistant Director of Residence Halls* (1950).
John Weston Howard, A.B., A.M., *Instructor in English* (1950).
Earl Hudelson, Ph.D., *Professor of Education* (1945), 1920.
Kathryn Huffman, A.B., M.S., *Assistant Chemist (part-time), Engineering Experiment Station* (1944).
Gertrude Humphreys,* A.B., *State Leader, Home Demonstration Work, Agricultural Extension Division* (1928), 1918.
William Edward Hurley, B.S., M.B.A., *Instructor in Economics and Business Administration* (1950). (Resigned July 1, 1951.)
Beatrice Hurst, M.A., *Associate Professor of Physical Education* (1935), 1928.
Ethel Smith Hurst, R.N., *Nurse in the University Health Service* (1950).
Florence M. Hurst, B.S., M.S., *Assistant Professor of Home Economics* (1947).
Joseph P. Huselton, B.S., M.S., Ph.D., *Assistant Professor of Chemistry* (1951).
Willie Solomon Hutson, B.S., *Assistant in Agricultural Economics* (1951).
George Hyatt, Jr., B.S., M.S., *Professor of Dairy Husbandry; Dairy Husbandman, Agricultural Experiment Station* (1947), 1941. (Resigned August 15, 1951.)
John Baskerville Hyde, B.S.Med.Sc., *Instructor in Anatomy, School of Medicine* (1950).
Alda W. Hymes, B.S., *Assistant Dietitian* (1951).
Harold Marteney Hyre, B.S., M.S., *Associate Professor of Poultry Husbandry; Associate Poultry Husbandman, Agricultural Experiment Station* (1944), 1931.
Don C. Iffland, Ph.D., *Assistant Professor of Chemistry* (1941).

John Thomas Imms, *Master Sergeant, Assistant Professor of Military Science and Tactics* (1951).

Lawrence Intravaia, B.M.Ed., M.M.Ed., *Instructor in Music and Band Director* (1950).

Thomas Stanley Isaack, M.B.A., *Assistant Professor of Economics and Business Administration* (1951).

David William Jacobs, A.B., *Director, Bureau of Information; Alumni Secretary* (1938).

Carl Alfred Jacobson, Ph.D., *Professor Emeritus of Chemistry* (1950), 1920.

Walter H. Jarecke, M.A., *Assistant Professor of Education* (1949).

Howard Jeffrey, A.B., M.A., *Assistant Professor of Physical Education* (1949).

Leland G. Jeffries, *Sergeant First Class, Assistant Professor of Military Science and Tactics* (1951).

Eldon King Jerome, B.S., M.A., Ph.D., *Director, Speech and Hearing Clinic, Associate Professor of Speech* (1950).

Carl Edward Johnson, B.A., B.S., M.D., *Instructor (part-time) in Medicine, Lecturer in Social Work* (1940).

Carl James Johnson,* B.S.F., *Forester, Agricultural Extension Division* (1949). (On leave March 15, 1952 to June 30, 1952.)

David Dale Johnson, A.M., Litt.D., *Professor Emeritus of English* (1946), 1902.

Verlin K. Johnson, B.S., M.S., Ph.D., *Assistant Professor of Animal Husbandry, Assistant Animal Husbandman, Agricultural Experiment Station* (1951).

Edwin Channing Jones, B.S.E.E., M.S.E.E., *Professor and Head of Electrical Engineering. Electrical Engineer, Engineering Experiment Station* (1948), 1926.

Helen Sterrett Jones, B.S., *Instructor (part-time) in Home Economics* (1948), 1926.

Lloyd Everett Jones, *Instructor in Machine Shop and Welding Practices; Foreman of Shops* (1946), 1937.

Paul Russell Jones, M.Sc., *Associate Professor of Ceramic Engineering; Associate Ceramic Engineer, Engineering Experiment Station* (1951), 1947.

Theodore John Kallsen, B.E., M.A., Ph.D., *Assistant Professor of Integrated Studies* (1949).

James F. Kast, *Master Sergeant, Field Artillery, Assistant Professor of Military Science and Tactics* (1944).

Benjamin Keen, Ph.D., *Associate Professor of History* (1946).

Everett Lee Keener, B.S.E.E., M.S.E.E., *Assistant Professor of Electrical Engineering* (1950), 1946.

Louise Keener, B.A., *Assistant Comptroller* (1950), 1929.

Claude R. Kemper,* B.S.Agr., M.S., M.S.Agr., *Specialist in Vegetable Gardening, Agricultural Extension Division* (1948), 1946.

Roger Anthony Kennedy, B.A., M.A., M.R.C.S., M.D., D.P.H., *Lecturer in Public Hygiene* (1950).

Harold Neely Kerr, A.B., M.Litt., *Assistant Professor of Sociology* (1947), 1946.

James Reginald Kidd, B.S.J., *Instructor in Journalism* (1949).

William Lewis Kjelgaard, B.S., *Instructor in Agricultural Engineering, Assistant Agricultural Engineer, Agricultural Experiment Station* (1951).

John Oliver Knapp,* B.S.Agr., *Director of the Agricultural Extension Division* (1933), 1917.

Ruth Elizabeth Knoch,* B.S., M.S., *Extension Clothing Specialist, Agricultural Extension Division* (1946), 1935.

Christian Burdick Koch, B.S., *Instructor in Forestry* (1951).

Walter Allos Koehler, M.S., Ch.E., Ph.D., *Professor and Head of Chemical Engineering; Acting Director, Engineering Experiment Station* (1946), 1924.

Melvin H. Kolbe,* B.S.Agr., M.S., *Assistant Horticulturist, Agricultural Extension Division* (1947).

Leo Kotchek, B.S., D.V.M., *Assistant Professor of Animal Pathology and Assistant Animal Pathologist, Agricultural Experiment Station* (1950). (Resigned February 29, 1952.)

Paul Krakowski, B.A., M.A., *Assistant Professor of Journalism* (1949).

Alma Elizabeth Kraus, A.B., M.A., *Instructor in Romance Languages* (1950), 1947.

Reginald F. Krause, A.B., M.S., Ph.D., M.D., *Professor and Head of Biochemistry* (1951).

Helen Louise Kudla, R.N., *Nurse in Infirmary* (1950).

Doris E. Kutz,* B.S.J., *Assistant Editor, Agricultural Extension Division* (1949). (Resigned August 31, 1951.)

Margaret Cornelia Ladwig, A.B., Ed.M., Ph.D., *Placement Adviser* (1949).

Harold W. Lahar, B.S., *Instructor in Physical Education; Assistant Football Coach* (1950). (Resigned February 15, 1952.)

Richard Willoughby Laird, B.S.E.M., *Assistant Professor of Mining Engineering* (1949), 1947.

Fred Lamb, B.S., *Major, Assistant Professor of Military Science and Tactics* (1951).

Kenneth Elsworth Lambert, B.S., M.A., *Assistant Professor of Economics and Business Administration* (1951).

Merlan M. Lambert, B.S., B.S.Ch.E., M.S.ChE., *Instructor in Mechanics* (1950), 1947.

Oscar D. Lambert, A.B., Ph.D., *Archival Consultant, Library; Lecturer in History* (1945), 1935.

Howard Harrison Lapham, Ph.B., M.S. in L.S., *Assistant University Librarian; Chief Public Service Librarian* (1949).

James Edward Larson, A.B., M.P.A., *Research Associate, Bureau for Government Research* (1949).

Beatrice Brenneman Law, A.B., M.A., *Instructor in English* (1949).

John Joseph Lawless, Ph.D., M.D., *Director of the University Health Service; Associate Professor of Medicine* (1944), 1935.

Claude H. Layman, D.D.S., *Lecturer (part-time) in Social Work* (1949).

Charles Lester Lazzell, Ph.D., *Professor and Head of Chemistry* (1949), 1919.

Julian Gilbert Leach, Ph.D., *Professor and Head of Plant Pathology and Bacteriology; Plant Pathologist, Agricultural Experiment Station* (1938).

Victor Jacob Lemke, A.B., M.A., Ph.D., *Associate Professor and Head of German* (1949), 1939.

Jessie Fortney Lemley,* B.S.H.E., *Associate State Leader, Home Demonstration Work, Agricultural Extension Division* (1951), 1922.

Nell Lanham Leonian, B.S.H.E., M.A., *Instructor in English* (1947), 1931.

Max Leva, B.S.Ch.E., M.S., Ch.E., *Visiting Lecturer in Chemical Engnieering* (1951).

Walter Richard Lewis, B.S., M.S., Ph.D., *Professor and Head of Agricultural Biochemistry; Biochemist, Agricultural Experiment Station* (1951).

Arthur Lewis, B.A., *Assistant Professor of Physical Education; Head Football Coach* (1950).

Bernard H. Light, B.S., M.A., Ph.D., *Assistant Professor of Psychology* (1951).

Kenneth Lilly, *Research Assistant, School of Mines and Engineering Experiment Station* (1945).

Virgil Greene Lilly, Ph.D., *Professor of Physiology and Physiologist, Agricultural Experiment Station* (1949), 1927.

Samuel N. Little, B.S., M.S., *Instructor in Agronomy, Assistant in Agronomy and Genetics, Agricultural Experiment Station* (1952).

Edward Alexander Livesay, B.S., M.S., A.M., Sc.D., *Professor and Head of Animal Husbandry; Animal Husbandman; Agricultural Experiment Station* (1919).

William Lewis Lloyd, *Flight Instructor* (1950).

J. Everett Long, A.M., *Registrar of the University* (1945), 1929.

Albert Delbert Longhouse, B.S., M.S., Ph.D., *Professor and Head of Agricultural Engineering; Agricultural Engineer, Agricultural Experiment Station* (1945), 1938.

Carl Otis Loomis, B.E., M.S., *Assistant Professor of Sociology* (1951).

Frank Edell Lorince, Jr., B.S., M.M., *Instructor in Music* (1950).

B. B. Lucas, Jr., *Instructor in Mining Extension* (1949).

John Luchok, B.S.J., *Acting University Editor; Acting Editor, Agricultural Experiment Station* (1951), 1950.

John Charles Ludlum, Ph.D., *Associate Professor of Geology* (1950), 1946.

August J. Ludwig, Jr., B.S., *Assistant IBM Supervisor* (1951).

Ernest H. Ludwig, B.A., M.S., Ph.D., *Assistant Professor of Bacteriology* (1948), 1947.

Marlyn Edward Lugar, A.B., LL.B., *Professor of Law* (1947), 1939.

Virginia G. Luikhart, B.S., *Circulation Assistant, Library* (1951), 1930.

George E. Luther, A.B., M.A., *Instructor in Romance Languages* (1950). (Resigned July 1, 1951.)

Elizabeth Blair Lyle, A.B., B.S., in L.S., *Senior Catalog Librarian* (1947).
Addison B. Lyon,* B.S.F., *Assistant Forester, Agricultural Extension Division* (1948).
Gale Hubert Lyon,* B.S.Agr., M.S.Ec., *Assistant Professor of Agricultural Economics, and Assistant Agricultural Economist, Agricultural Experiment Station* (1950). (Resigned July 1, 1951.)
William Henry MacKenzie, *Instructor in Mining Extension* (1945).
Virginia C. Madigan, B.S., *Reference Assistant, Library* (1930).
Mavis Andre Mann, A.B., M.A., Ph.D., *Assistant Professor of Political Science* (1949), 1947.
Oliver B. Manning, B.M., M.M., *Assistant Professor of Music* (1950).
Warren Francis Manning, A.B., A.M., Ph.D., *Associate Professor of Romance Languages; Foreign Student Adviser* (1945), 1928.
Lon Thomas Marks, Ph.B., B.D., M.A., *Instructor in English* (1948), 1947.
Marilyn Elizabeth Markussen, B.Sc., M.A., *Instructor in Psychology* (1948). (Resigned July 1, 1951.)
David Fielding Marsh, A.B., M.S., Ph.D., *Professor and Head of Pharmacology* (1947), 1944.
Ray Stanley Marsh, B.S.Agr., A.M., *Professor and Head of Horticulture; Horticulturist, Agricultural Experiment Station* (1936).
Glenn Fayette Martin, *Instructor in Machine Shop and Welding Practices, Mechanical Engineering* (1940).
Mason Edwin Marvel, B.S., M.S., *Instructor and Assistant in Horticulture* (1951).
Richard David Mason, B.S.C.E., *Instructor in Civil Engineering* (1950). (Resigned September 1, 1951.)
George Ralph Maxwell, B.S., M.D., *Assistant Professor (part-time) of Physical Diagnosis; Lecturer (part-time) in Social Work* (1936), 1924.
Arthur Cook McBride, A.B., M.A., Docteur de l'Universite de Bordeaux, *Associate Professor of Romance Languages* (1950), 1926.
James Rowe McCartney, A.B., *Athletic Alumni Representative, Athletic Department* (1947). (Resigned July 1, 1951.)
Leland W. McCloud, B.S., M.S., Ph.D., *Assistant Professor of Economics and Business Administration, Assistant Director, Bureau of Business Research* (1950). (Resigned April 15, 1951.)
Joseph Dwight McClung, B.S.E.E., *Assistant Director of Mining Extension* (1949), 1941.
Kennon F. McCormick, A.B., A.M., *Assistant Professor of Psychology* (1948). (Resigned September 1, 1951.)
Ernie Bevan McCue, A.B., A.M., *Acting Director, University Extension* (1950), 1947.
Elizbeth Adams McKenney, Mus.B., Mus.M., *Assistant Professor of Music* (1949).
Bernard R. McGregor, B.S.Ed., *Assistant Professor of Music* (1950), 1935.
Theodore Clinton McIlvaine, Ph.D., *Professor Emeritus of Agronomy* (1950), 1918.
Warren Adam McMullen, *Master Sergeant, Assistant Instructor, Air Science and Tactics* (1951). (Resigned May 31, 1951.)
James Clair McVay, *Captain, Assistant Professor of Air Science and Tactics* (1951).
Paul Lee Michael, B.S., M.S., *Instructor in Physics* (1949). (Resigned September 1, 1951.)
Alvin Martin Miller, B.S.M.E., *Superintendent of Buildings and Grounds* (1945).
Delmas Ferguson Miller, A.B., M.S., Ph.D., *Associate Professor of Education and Principal of University High School* (1950), 1949.
Webster Earl Miller, M.A., *Instructor in Chemistry* (1946).
William S. Minor, A.B., D.B., *Associate Professor of Philosophy* (1946).
Kathleen Mitchell, *Social Director, Woman's Hall* (1942), 1940. (Resigned September 1, 1951.)
Charles Mitrani, A.B., A.M., Ph.D., *Associate Professor of Romance Languages* (1931), 1921.
Jack C. Mixon, *Master Sergeant, Corps of Engineers, Assistant Professor of Military Science and Tactics* (1946). (Resigned January 18, 1952.)
William E. Mockler, M.A., *Assistant Professor of English* (1948), 1938.
Fred A. Molby, Ph.D., *Professor Emeritus of Physics* (1948), 1920.
George Joseph Monser, B.S.E.E., *Instructor in Electrical Engineering* (1947).

Archibald W. Moore, *Lt. Colonel, Assistant Professor of Air Science and Tactics* (1951).

Byron Wayne Moore,* B.S.Agr., *Assistant Poultryman, Agricultural Extension Division* (1947).

Shelley Riley Moore, B.S.Ed., *Film Assistant, Audio-visual Aids Department, Library* (1949). (Resigned June 30, 1951.)

Susan Maxwell Moore, A.B., *Instructor Emeritus in Piano and Sight Playing* (1937), 1903.

Ben Morgan,* A.B., B.S.Agr., *Assistant Animal Husbandman, Agricultural Extension Division* (1947), 1935.

Samuel John Morris, M.D., *Professor of Physical Education; Physician, University Health Service; Medical Adviser Intercollegiate Athletics, Department of Athletics* (1935), 1912.

David Edgar Morrison, B.S., *Auditor, Office of Comptroller,* (1950).

Drema Maxine Musgrove, R.N., *Nurse in Health Service* (1952).

Chester William Muth, B.S., Ph.D., *Assistant Professor of Chemistry* (1949).

Clifford A. Myers, Jr., B.S.F., M.F., *Instructor in Forestry* (1947). (On military leave.)

Leroy Orner Myers, M.A., *Assistant Professor of Geology* (1948).

Charles Warren Neal, B.S.Agr., *Instructor in Genetics and Assistant in Genetics, Agricultural Experiment Station* (1949).

Oliver Meader Neal, Jr., B.S., *Assistant Professor of Horticulture* (1948), 1942.

Elizabeth B. Neel, *Administrative Assistant, Library* (1949), 1936.

Charles Thompson Neff, Jr., A.B., LL.D., *Vice-president of the University and Comptroller* (1946), 1927.

Stanley John Nels, B.S.J., *Acting Assistant Editor, Agricultural Experiment Station* (1951).

Nell Nesbitt, A.M., *Associate Professor Emeritus of Home Economics* (1942), 1923.

Frederick A. Neumeister, B.S., *Captain, U.S. Air Forces, Assistant Professor of Air Science and Tactics* (1950).

Joseph Newhouse, B.S., *Instructor in Economics and Business Administration* (1949).

Eloise Fisher Newlon, A.B., M.A., B.S. in L.S., *Senior Catalog Librarian* (1946), 1945.

John F. Nicholas, Jr., *Major, Infantry, Assistant Professor of Military Science and Tactics* (1949).

Fred Jouett Nisbet, B.S., Ph.D., *Assistant Professor of Ornamental Horticulture* (1949).

Ruth Douglas Noer, B.S., M.S., *Professor and Head of Home Economics, Professor of Education* (1938), 1925.

William Laurus Northern,* B.S., *Assistant Dairyman, Agricultural Extension Division* (1951).

David W. Northup, A.B., A.M., Ph.D., *Professor and Head of Physiology* (1949), 1935.

Paul Swartz Null, A.B., M.S., *Instructor in Mathematics* (1951).

James Robert Nuzum, B.S., M.S., *Assistant Director, Bureau of Information* (1947).

Norman Nybroten, Ph.D., *Professor of Agricultural Economics; Agricultural Economist, Agricultural Experiment Station* (1949).

John Frederick Ollom, B.S., M.S., M.A., *Assistant Professor of Physics* (1951).

Norman Olaf Olson, D.V.M., *Professor of Animal Pathology, Animal Pathologist, Agricultural Experiment Station* (1948).

Edwin Orr, B.S.M.E., *Assistant Superintendent, Buildings and Grounds* (1949).

Clayton Roberts Orton, Ph.D., Sc.D., *Professor of Plant Pathology and Plant Pathologist, Agricultural Experiment Station* (1949), 1929. (On leave.)

C. Jeanette Oswald, B.S., M.S., *Associate Professor of Nursing Education* (1949).

Nadine Page, M.A., *Assistant Professor of English* (1949), 1925.

Beth May Palmer, B.S., M.S., *Assistant Professor of Home Economics* (1927).

Jordan Cyrille Pappas, A.B., LL.B., *Instructor in Economics and Business Administration* (1948). (Resigned July 1, 1951.)

Robert Wayne Parker, B.S.For., *Research Assistant in Forestry, Agricultural Experiment Station* (1950).

Dickson Ward Parsons, Ph.D., *Professor Emeritus of Rural Organization* (1951), 1923.

John D. Parsons, *Master Sergeant, Air Force, Assistant Professor of Air Science and Tactics* (1950), 1946. (Resigned May 31, 1951.)
Boyd J. Patton,* A.B., *Soil Scientist, Agricultural Experiment Station* (1945).
Charles Edwin Patton, A.M., *Professor and Head of Art* (1951), 1939.
James Meredith Pauley, B.S., *Veterans Coordinator* (1949), 1948.
Howell Ridgeway Payne, *Master Sergeant, Assistant Professor of Air Science and Tactics* (1951).
Leonard Marion Pearis, Ph.D., *Professor and Head of Entomology; Entomologist, Agricultural Experiment Station* (1950), 1911.
Roger W. Pease, B.S., *Assistant Hillculturist, Agricultural Experiment Station* (1947).
Charles Franklin Peer, B.S.M.E., *Assistant Professor of Mechanical Engineering* (1950), 1947.
Frank Peluso, B.S., M.A., *Teacher of Core, University High School* (1950).
W. Clement Percival, Ph.D., *Professor and Head of the Division of Forestry; Forester, Agricultural Experiment Station* (1939), 1934.
Virginia Taylor Perry, A.B., M.A., *Junior Librarian* (1951), 1946.
Jane Rhodes Pestun, B.M. in Piano, M.M., *Instructor in Music* (1945), 1942.
Lland Dee Peters, M.S., *Assistant Professor of Mathematics* (1947), 1941.
Mason Marcus Peterson, B.S.E.E., *Associate Professor of Electrical Engineering* (1948).
Helen Purinton Pettigrew, M.A., Ph.D., *Assistant Professor of English* (1942), 1921.
Philip Carl Pfister, B.M.E., M.S.M.E., *Instructor in Mechanical Engineering* (1950).
Dolores Maxine Phillips, B.S., *Instructor in Economics and Business Administration* (1948).
Byrd Lea Pickens, A.B., M.A., *Assistant Circulation Librarian* (*limited service*) (1945), 1930.
Justus C. Pickett, M.D., *Lecturer* (*part-time*) *in Social Work* (1949).
Helen Margaret Plants, B.S.C.E., *Instructor in Mechanics* (1947).
Martha Amanda Plonk, B.S., M.S., *Instructor in Home Economics; Assistant in Home Economics, Agricultural Experiment Station* (1949).
George Gordon Pohlman, Ph.D., *Professor and Head of Agronomy; Agronomist, Agricultural Experiment Station* (1938), 1930.
Helen Pollock, A.B., M.S., *Instructor in Mathematics* (1948).
Peter Popovich, A.B., B.S., M.S., *Instructor in Chemistry* (1949), 1946.
Ward Flowers Porter, Jr., A.B., M.A., Ph.D., *Assistant Professor of Rural Sociology, Agricultural Economics; Assistant Rural Sociologist, Agricultural Experiment Station* (1947).
Ira Deward Porterfield, B.S., M.S., *Associate Professor of Dairy Husbandry; Associate Dairy Husbandman, Agricultural Experiment Station* (1951), 1946.
James Stanley Poundstone, *Instructor in Mining Extension* (1924).
Sarah Elizabeth Powell, B.S., *Assistant Dietitian, Men's Dining Hall* (1950), 1947.
Nettie Woodyard Pratt, *Assistant to Social Director, Terrace Hall* (1949).
Irene Forbes Preble, R.N., *Nurse, University Health Service* (1950).
Irene Forbes Preble, R.N., *Nurse, University Health Service* (1950). (Resigned July 1, 1951.)
John Duncan Preston, B.A., M.A., *Junior Circulation Librarian* (1951), 1950.
Blanche Elizabeth Price, A.B., M.A., *Assistant Professor of Home Economics* (1945), 1917.
Ira Joseph Price, B.S., *Assistant in Agricultural Biochemistry, Agricultural Experiment Station* (1951).
Virginia M. Price, B.S., M.S., *Instructor* (*part-time*) *in Physical Education* (1952), 1951.
Cecil Benjamin Pride, A.B., M.D., *Instructor* (*part-time*) *in Surgery* (1942), 1926.
Maynard Pride, A.B., M.D., *Instructor* (*part-time*) *in Surgery* (1949).
Bertha Browning Purinton, A.M., *Assistant Registrar* (*Retired*) (1946), 1919.
Lawrence Albert Pursglove, B.S., M.S., D.Sc., *Assistant Professor of Chemistry* (1949).
Robert Edgar Pyle, B.S.Ch.E., M.S.Ch.E., *Instructor* (*part-time*) *in Chemical Engineering* (1952).
Harley Gordon Pyles, B.S.M.E., *Instructor in Mechnaical Engineering* (1948).
Ervin Queen, B.S., *Teacher of Social Studies and Core, University High School* (1950).
Alston Lee Reed, B.S.E.E., *Associate Professor of Electrical Engineering* (1951), 1946.
Elizabeth Frost Reed, A.M., *Assistant Professor of English* (1945), 1919.

Perley Isaac Reed, Ph.D., *Director of the School of Journalism; Professor of Journalism* (1939), 1920.

Albert Moore Reese, Ph.D., *Professor Emeritus of Zoology* (1950), 1907.

Florence K. Reese, A.B., B.S.,Libr.Serv., M.A., *Assistant Professor and Head of Library Science* (1949), 1935.

James Travis Reid, B.S.A.E., *Instructor in Agricultural Engineering; Assistant Agricultural Engineer, Agricultural Experiment Station* (1951).

William Henry Reid, B.F., M.F., *Associate Professor of Forestry; Associate Forester, Agricultural Experiment Station* (1951).

Harvey Nixon Rexroad, B.S.E.E., M.S., *Instructor in Physics* (1947).

Clarence Newton Reynolds, Jr., Ph.D., *Professor Emeritus of Mathematics* (1951), 1921.

James Irving Reynolds, B.S.M.E., *Associate Professor of Mechanical Engineering; Associate Mechanical Engineer, Engineering Experiment Station* (1947), 1942. (Resigned September 1, 1951.)

Albert Edward Rhudy, A.B., M.S.W., *Lecturer (part-time) Social Work* (1949).

John Harrison Rietz, D.V.M., M.S., *Professor Emeritus of Animal Pathology* (1948), 1927.

Blair Mastin Ritter, B.S.Agr., *Assistant in Agronomy, Agricultural Experiment Station* (1950), 1948. (Resigned July 1, 1951.)

Charles E. Roberts, A.B., *Assistant Director, Bureau of Information, Assistant Alumni Secretary* (1948).

Evan Owen Roberts, A.B., M.A., Ph.D., *Associate Professor of Economics and Business Administration* (1945), 1939.

Louise Boggess Roberts, M.A., *Instructor in Education and Teacher of Home Economics, University High School* (1937), 1933.

William Harvard Roberts,* B.S.Agr., *District Agent, Agricultural Extension Division* (1935), 1919.

Helen Elaine Robinson, A.B., B.S. in L.S., *Librarian, University High School* (1949), 1947.

Ruth Eleanor Robinson, A.B., A.M., *Manager, University Book Store* (1944), 1939.

Ira Errett Rodgers, A.B., *Associate Professor of Physical Education; Golf Coach* (1950), 1920.

Kate Merefdith Roller, A.B., A.M., *Instructor in Education; Teacher of Arts and Crafts, University High School* (1946), 1927.

George Ott Romney, M.A., *Dean of the School of Physical Education and Athletics; Professor of Physical Education* (1946). (Resigned October 31, 1951.)

William Robert Ross, M.A., *Assistant Professor of Political Science* (1948), 1938.

Samuel Rotii, *Colonel, Head and Professor of Military Science and Tactics* (1949).

Thayer L. Royal, *Lieutenant Colonel, Infantry, Assistant Professor of Military Science and Tactics* (1950).

Edward Lehman Ruhe, B.A., M.A., *Instructor in English* (1951).

Charles Michael Runner, *Stationary Engineer, Mechanical Engineering (Retired)* (1949), 1919.

Charles Davis Russell, *Sergeant, Assistant Professor of Military Science and Tactics* (1950).

Mabel K. Samuel, B.S., *Dietitian and Executive Housekeeper, Men's Residence Hall* (1946).

Mary Alice Sands, A.B., M.S., *Instructor and Assistant in Bacteriology* (1950), 1948.

Morton Santymire, B.S., M.S., *Instructor in Physical Science* (1950), 1946. (On military leave.)

Jacob Charles Saposnekow, M.A., *Associate Professor of Sociology* (1941), 1924.

Greek Sayre, M.A., *Assistant Professor of English* (1941), 1918.

John Gustav Scherlacher, M.Ed., *Associate Professor of Physical Education and Athletics* (1948), 1947.

Vincent Peter Schiavoni, B.B.S., *Captain, Assistant Professor of Air Science and Tactics* (1951).

Richard Floyd Schneider, *Technical Sergeant, Assistant Professor of Air Science and Tactics* (1951).

Oscar Edmund Schubert, B.S.Agr., M.S., Ph.D., *Assistant Professor of Horticulture; Assistant Horticulturist, Agricultural Experiment Station* (1949).
Marjorie Whiteleather Schramm, R.N., *Nurse, Health Center* (1951).
Clarence K. Schultz, A.B., M.A., Ph.D., *Associate Professor of Education* (1949).
Dorothy Ann Schultz, B.S., M.A., *Instructor in Home Economics* (1951).
Grace D. Scott, A.B., M.A., *Director Supervisor Training, Education* (1950).
Venton Hereward Scott, A.B., M.A., *Instructor in Speech* (1949).
William D. Scott, A.B., M.A., *Director, Mountainlair* (1948), 1946.
Raymer Egbert Seaman, *Instructor in Woodworking and Foundry Practice (Retired)* (1945), 1912.
John J. S. Sebastian, D.Sc., *Visiting Lecturer in Chemical Engineering* (1948).
Charles Borum Seibert, B.S.E.E., M.S.E.E. *Professor of Electrical Engineering* (1951), 1934.
Uriel Seiden, B.S.C.E., M.S.C.E., *Assistant Professor of Civil Engineering* (1951), 1947. (Resigned September 1, 1951.)
Leon Zee Seltzer, Ph.C., B.S.E., *Professor and Head of Aeronautical Engineering* (1949).
John Semon, B.S.P.E., M.S., *Assistant Professor of Physical Education; Director of Intramural Sports for Men* (1946), 1943.
Mary Alice Semon, B.S., M.A., *Instructor in Education; Teacher of Core Curriculum, University High School* (1948), 1938.
Lois Louise Sentman, A.B., M.A., *Asssitant Professor of Social Work* (1949), (*Resigned* July 1, 1951.)
Raymond Edwin Shafer, B.S.I.E., M.S.I.E., *Professor of Industrial Engineering* (1951), 1949.
Hubert Adams Shaffer, B.S., M.D., *Consulting Radiologist, University Health Service* (1949).
W. Glenn Shaffer, B.A., B.S. in L.S., *Senior Catalog Librarian* (1950).
Harold Joseph Shamberger, A.B., M.P.A., *Research Assistant, Bureau for Government Research* (1949).
George Sharpe,* B.S.Agr., M.S., *Soil Conservationist, Agricultural Extension Division* (1944), 1930.
Bertha L. Shaw,* *Assistant to Director, Agricultural Extension Division* (1945), 1921.
Charles William Shetler, B.A., M.A., *Curator, West Virginia Collection* (1950).
John Edward Shockey, B.S., *Instructor in Physical Education; Assistant Football Coach* (1950).
Dorothy D. Short, B.A., M.A., *Instructor in Physical Education* (1950), 1949.
Wilson Porter Shortridge, Ph.D., *Professor Emeritus of History* (1951), 1922.
Patricia Louise Showalter, B.S., *Teacher of Core, University High School* (1951).
Karl Glenn Siedschlag, Jr., Ph.D., *Assistant Professor of Chemistry* (1949). (Resigned September 1, 1951.)
Joseph Felton Silbaugh, B.S.J., *University Editor; Editor, Agricultural Experiment Station* (1949), 1946. (On military leave.)
Charles S. Simmons, *Office Manager, Intercollegiate Athletics* (1947).
Phillip Simon, A.B., A.M., *Instructor in Biology* (1950). (Resigned July 1, 1951.)
Pete Simonette, B.A., M.A., *Instructor in Romance Languages* (1949).
Howard Perry Simons, PhD., *Professor of Chemical Engineering; Chemical Engineer, Engineering Experiment Station* (1947), 1939.
Armand Edwards Singer, A.B., A.M., Ph.D., *Assistant Professor of Romance Languages* (1947), 1940.
John Madison, Slack, B.A., M.S., Ph.D., *Professor and Head of Bacteriology and Public Hygiene* (1949), 1946.
Clark Kendall Sleeth, A.B., B.S., M.D., *Associate Professor of Medicine; Assistant Director, University Health Service* (1946), 1935.
William M. Slocum, B.S., *Instructor in Economics and Business Administration* (1949). (Resigned July 1, 1951.)
Myron Bernstein Slomka, B.S., B.A., M.S., *Instructor in Pharmacology* (1952).
Genevieve Poland Smell, A.B., M.A., *Instructor in Biology* (1949), 1946.
Arthur Newell Smith, A.B., *Associate Professor of Physical Education; Coach of Track* (1931), 1924.

Fred Manning Smith, A.B., M.A., Ph.D., *Professor of English* (1939), 1927. (Resigned September 1, 1951.)
Gene Hope Smith, B.A., M.S., *Instructor in Zoology* (1948), 1946.
Gerald Wayne Smith, A.B., M.A., *Instructor (part-time) in History* (1951), 1948.
Harold Arnett Smith, B.S.E.E., *Instructor in Electrical Engineering* (1949).
Robert Charles Smith, B.S.M.E., *Assistant Professor of Mechanics* (1948). (On military leave.)
Sara R. Smith, Ph.D., *Associate Professor of History* (1951), 1946.
Bernice Lenore Smrek, A.B., M.A., *Instructor in Education and Teacher of English, University High School* (1945).
Grace Martin Snee, B.M., *Instructor Emeritus in Piano and Pipe Organ* (1945), 1898.
Gerald George Somer, B.A., M.A., *Assistant Professor of Economics and Business Administration; Research Associate, Bureau of Business Research* (1949).
Sylvia Josephine Soupart, M.A., *Instructor Emeritus in Education* (1945), 1925.
Bernice McKean Spangler, A.B., M.A., *Instructor in English* (1948), 1947.
Robert Clifton Spangler, A.B., A.M., Ph.D., *Professor of Botany* (1926), 1914.
Henry Withers Speiden, M.S.C.E., *Professor and Head of Civil Engineering; Civil Engineer, Engineering Experiment Station* (1947), 1931.
Robert V. Sperry, B.S.E.E., *Instructor in Electrical Engineering* (1949).
Claude Carl Spiker, Ph.D., *Professor and Head of Romance Languages* (1926), 1913.
Betty Ann Spillman, A.B., M.A., *Social Director, Mountainlair* (1950).
Garold Ralph Spindler, B.S.E.M., E.M., *Director of the School of Mines; Professor of Mining Engineering; Mining Engineer, Engineering Experiment Station* (1948), 1934.
Irene A. Spitz,* A.B., *Recreation Specialist, Agricultural Extension Division* (1946).
Robb Spaulding Spray, Ph.D., *Professor Emeritus of Bacteriology and Public Hygiene* (1946), 1921.
Elizabeth Mattingly Stalnaker, Ph.D., *Professor of Psychology* (1928), 1925.
Madison Stathers, Ph.D., *Professor Emeritus of Romance Languages* (1949), 1906.
Forrest Wilbur Stemple, Ph.D., *Dean of the College of Education; Professor of Education* (1949), 1916.
Harry H. Stephens, B.S.C.E., *Engineer, Buildings and Grounds* (1949), 1943.
Irvin Stewart, LL.B., A.B., A.M., Ph.D., LL.D., *President of the University* (1946).
Joseph K. Stewart, Ph.D., *Associate Professor of Mathematics* (1946), 1930.
John Clifford Stickney, B.S., M.S., Ph.D., *Associate Professor of Physiology* (1949), 1940.
Robert S. Stilwell, B.A., M.A., Ph.D., *Assistant Professor of German* (1949), 1947.
Dorothy Alice Stoflet, B.A., M.S., *Assistant Professor of Home Economics* (1948).
Harry Everett Stone, A.M., *Secretary, Student Loans and Placement, Retired* (1950), 1922.
Lowry McElvaine Stoops, A.B., *Assistant Director, Intercollegiate Athletics* (1926).
Perry Daniel Strausbaugh, Ph.D., *Professor Emeritus of Botany* (1948), 1938.
Sam Stregevsky, B.A., M.A., *Assistant Agricultural Biochemist, Agricultural Experiment Station* (1950), 1948. (Resigned August 1, 1951.)
Albert Lee Sturm, A.B., A.M., Ph.D., *Professor of Political Science* (1951), 1946.
Festus Paul Summers, A.M., Ph.D., *Professor and Head of History* (1947), 1932.
William Clair Summers, *Mechanician, Civil Engineering* (1948).
W. B. Talbott, *Instructor in Mining Extension* (1927).
Joseph Paul Talerico, A.B., M.A., *Teacher of Social Studies and English, University High School* (1948). (On military leave.)
Elizabeth Tarver, A.B., B.S. in L.S., *Chief Technical Processes Librarian* (1946).
Evelyn Hall Taylor, B.S., *Assistant Dietitian, Terrace Dining Hall* (1946). (Resigned June 2, 1951.)
Harley Ustus Taylor, Jr., A.B., M.A., *Instructor in German* (1951), 1949.
Leland Hart Taylor, Sc.D., *Professor of Zoology* (1932), 1922.
Gaddy V. Temple, *Sergeant Major, Assistant Professor of Air Science and Tactics* (1951).
Kenneth Loren Temple, B.S., M.S., Ph.D., *Associate Research Specialist, Engineering Experiment Station* (1951).

Charles Danser Thomas, Ph.D., *Professor of Physics* (1947), 1931.

Richard H. Thomas, *Sergeant, Infantry, Assistant Professor of Military Science and Tactics* (1950), 1949. (Resigned February 13, 1951.)

Robert Earl Thomas, B.Mus., M.A., *Instructor in Education and Teacher of Music, University High School* (1948).

Arthur T. Thompson, Ph.D., *Horticulturist at University Experiment Farm* (P. O. Kearneysville) (1950). (Resigned March 31, 1952.)

James Howard Thompson, A.B., M.A., Ph.D., *Assistant Professor of Economics and Business Administration; Research Associate, Bureau of Business Research* (1948).

George E. Toben, M.S., *Associate Professor of Agricultural Economics; Associate in Farm Management, Agricultural Experiment Station* (1946).

Harry F. Toothman, Ph.D., *Associate Professor of Education, University Extension, Athens, W. Va.* (1946).

Patrick Anthony Tork, M.S., *Associate Professor of Physical Education; Coordinator of Facilities Schedules in Intercollegiate Athletics* (1946), 1943.

Ralph B. Tower, B.B.A., M.B.A., Ph.D., *Professor of Economics and Business Administration* (1941).

John Chalmer Townsend, B.S., M.S., Ph.D., *Assistant Professor of Psychology* (1948).

John H. Trotter, A.B., B.S., M.D., *Opthalmalogical Consultant* (*part-time*) *in Integrated Studies* (1950).

Rodney Philip True, Ph.D., *Associate Professor of Plant Pathology; Plant Pathologist Agricultural Experiment Station* (1949).

Earl Haven Tryon, Ph.D., *Associate Professor of Silviculture; Associate Silviculturist, Agricultural Experiment Station* (1945).

Eldon Bryant Tucker, B.S., M.D., *Lecturer* (*part-time*) *in Pharmacology* (*Anesthesiology*) (1937).

Harry Tucker, Jr., B.A., M.A., Ph.D., *Instructor in German* (1950). (Resigned September 1, 1951.)

Bird Margaret Turner, Ph.D., *Professor Emeritus of Mathematics* (1950), 1923.

Jack Thorne Turner, B.S., M.A., *Instructor in Economics and Business Administration* (1950). (Resigned July 1, 1951.)

Odis Wesley Turner, *Assistant Mechanician, Physics* (1947).

Wilbur Jones Tyler, B.S., M.S., Ph.D., *Professor of Dairy Husbandry; Dairy Husbandman, Agricultural Experiment Station* (1950), 1945. (Resigned July 1, 1951.)

Benjamin H. Ulrich, Jr., B.S., M.S., *Assistant Professor of Aeronautical Engineering* (1951).

Orval Lee Utt, B.S., *Instructor* (*part-time*) *in Electrical Engineering* (1951).

Ellen Zink Vandervort, B.A., M.S., *Instructor in Biology* (1949), 1946.

Norman Castles Van Guilder, B.A., *Assistant Professor of Journalism* (1950), 1948.

Audrey Howard VanLandingham, Ph.D., *Assistant Dean, College of Agriculture, Forestry, and Home Economics and Assistant Director, Agricultural Experiment Station* (1950), 1929.

Edward Jerald Van Liere, M.S., M.D., Ph.D., *Dean of the School of Medicine; Professor of Physiology* (1937), 1921.

Harry Ross Varney, Ph.D., *Dean of the College of Agriculture, Forestry, and Home Economics; Director of the Agricultural Experiment Station* (1950).

Collins Veatch, B.S., M.S., Ph.D., *Associate Professor of Agronomy; Associate Agronomist, Agricultural Experiment Station* (1945).

Charles Henry Vehse, Ph.D., *Professor of Mathematics* (1947), 1929.

Marvin Lewis Vest, M.S., A.M., Ph.D., *Associate Professor of Mathematics* (1949), 1931.

Enoch Howard Vickers, A.M., *Professor Emeritus of Economics and Business Administration* (1938), 1890.

Mayme Elizabeth Waddell, B.S., M.A., *Business Director, Residence Halls* (1935), 1930.

Rebecca Estra Wade, A.B., M.A., *Instructor in Romance Languages* (1945).

Mildred K. Wagle, A.B., M.S.S.A., *Assistant Professor of Social Work* (1951). (Resigned January 15, 1952.)

Esther Pruden Walcott, B.A., M.S.S., *Assistant Professor of Social Work* (1952).

CHARLES E. WALLS, *Laboratory Assistant and Mechanician in Chemical Engineering* (1938).

JOHN ROBINSON WARNER, B.S., M.S., *Instructor in Forestry* (1951).

GLADYS WASMUTH,* B.S.H.E., M.S., *Home Management Specialist—Housing, Agricultural Extension Division* (1949), 1935.

MARY JANE WASMUTH, B.M., M.M., *Instructor in Education, Teacher of Public School Music, University High School and University Laboratory Elementary School, Instructor (part-time) in Physical Education* (1943).

DOROTHY MARIE WATSON, B.S., M.A.Ed., *Instructor in Education and Teacher of Business Education, University High School* (1946), 1943.

HOBART WATSON, *Instructor in Mining Extension, Oak Hill, W. Va.* (1925).

LEIGHTON GUILFORD WATSON,* A.B., *Editor, Agricultural Extension Division* (1947), 1938.

MARY ELIZABETH WATTLES, B.A., B.S. IN L.S., *Chief Reference Librarian* (1946). (Resigned January 31, 1952.)

KENNETH E. WAYMIRE, *Major, Infantry*, B.A., *Assistant Professor of Military Science and Tactics* (1949).

CHARLES EDWARD WEAKLEY, JR., M.A., *Associate Agricultural Biochemist, Agricultural Experiment Station* (1938), 1907.

GEORGE WILLIAM WEAVER, B.S.M.E., *Assistant Professor of Mechanics* (1951), 1948.

ROBERT LEWIS WEEKS, A.B., M.A., *Instructor in English and Assistant in Integrated Studies* (1949), 1948. (Resigned July 1, 1951.)

SAMUEL JOSEPHUS WEESE, B.S., M.A., *Associate Professor of Dairy Husbandry; Associate Dairy Husbandman, Agricultural Experiment Station* (1951), 1945.

LLOYD WASHINGTON WELDEN, B.S., M.A., *Assistant Professor of Speech* (1950), 1947.

DANA WELLS, A.B., M.A., PH.D., *Associate Professor of Geology* (1945), 1930.

ARCHIBALD JAMES WELTON, A.B., A.M., *Instructor in Romance Languages* (1949).

KYLE CHESTER WESTOVER, B.S., M.S., PH.D., *Professor of Horticulture; Horticulturist, Agricultural Experiment Station* (1945), 1921.

DELEVAN WHALEY, JR., B.A., M.S., *Junior Audio-visual Aids Librarian* (1950). (Resigned August 25, 1951.)

HARRY GROVE WHEAT, PH.D., *Professor of Education* (1935).

BENNETT SEXTON WHITE, B.S.M.E., *Professor Emeritus of Drawing and Machine Design* (1946), 1919.

RALPH M. WHITE, A.B., LL.B., *Assistant Professor of Political Science* (1951), 1940.

FREDERICK RENDELL WHITTLESEY, B.A., M.D., *Assistant Professor (part-time) of Medicine* (1940), 1930.

BRAND WHITLOCK, *First Lieutenant, Assistant Professor of Military Science and Tactics* (1950).

ROBERT PECKHAM WHORF, S.B., *Instructor in Integrated Studies* (1949).

DONALD WIEBE, B.S.M.E., *Assistant Professor of Mining Engineering* (1951).

HAROLD ALLEN WILLIAMS, B.S., M.A., *Instructor in Education* (1949), 1940.

JOHN RODNEY WILLIAMS, B.A., M.A., *Assistant Professor of Political Science* (1949). (Resigned September 1, 1951.)

THOMAS WALLEY WILLIAMS, B.S., M.S., PH.D., *Associate Professor of Anatomy and Histology* (1948), 1944.

DOUGLAS B. WILLIAMSON, B.A., M.A., *Assistant Professor of Physics* (1946).

BENJAMIN HARRISON WILSON, B.S., M.A., *Instructor in English* (1949). (Resigned July 1, 1951.)

CHARLES VINYARD WILSON, M.S., *Professor of Animal Husbandry; Animal Husbandman, Agricultural Experiment Station* (1946), 1919.

EVERETT E. WILSON, B.S., M.S.W., *Assistant Professor of Social Work* (1947). (Resigned September 1, 1951.)

GLEN M. WILSON, JR., B.S.ED., M.A., *Instructor in Speech* (1950). (Resigned July 1, 1951.)

HAROLD A. WILSON, PH.D., *Associate Professor of Bacteriology; Associate Bacteriologist, Agricultural Experiment Station* (1947).

KATHERINE WOODS WILSON, B.S., M.S., PH.D., *Assistant Professor of Chemistry* (1948).

MAY LANDSTREET WILT, M.A., *Instructor in Education; Teacher of Mathematics, University High School* (1931), 1925.

John E. Winter, Ph.D., *Professor Emeritus of Psychology* (1948), 1921.
Albert Freddie Wojcik, B.S.Phar., *Assistant Professor of Pharmacy* (1949), 1945.
Kenneth Wood, Mus.B., Mus.M., *Associate Professor of Music; Faculty Resident, Men's Residence Hall* (1948), 1928.
Mildred Woofter, A.B., M.A., *Instructor in Education; Teacher of English and Social Studies, University High School* (1936).
Donald Thompson Worrell, B.S.E.E., M.S.E.E., *Associate Professor of Mechanics Associate Engineer, Mechanics, Engineering Experiment Station* (1950), 1941.
Fred Earle Wright, II, B.S., M.S., *Instructor in Economics and Business Administration* (1951).
James W. Wright, A.M., *Associate Professor of Sociology, University Extension* (1947).
Joseph Paul Yakubsin, *Staff Sergeant, Assistant Professor of Military Science and Tactics* (1950). (Resigned May 31, 1951.)
Robert Sefton York, A.B., *Acting Chief Audio-visual Aids Librarian* (1951), 1949.
Charles Peter Yost, M.S., *Instructor in Physical Education* (1946).
Edward D. Young, *Mechanician, Mining and Industrial Extension* (1950), 1943.
Vincent M. Zeladonis, *Sergeant First Class, Quartermaster Corps, Assistant Professor of Military Science and Tactics* (1949).
Charles A. Zeller, B.S., M.D., *Lecturer in Social Work; Assistant Professor (part-time) in Psychiatry* (1949). (Resigned September 1, 1951.)

Part IV

APPENDIX

DEGREES CONFERRED 1870-1951

Bachelor's Degrees

YEAR	A.B.	B.S.	LL.B.	B.S.C.E.	B.S.M.E.	B.S.E.M.	B.S.E.E.	B.S.Ch.E.	B.S.Ind.Ed.	B.S.A.E.	B.S.Agr.	A.B. in Law	Ph.B.	M.D.	D.V.	B.S.H.E.	Ph.C.	Ph.G.	B.Mus.	B.S.Ed.	B.S.Phys.Ed.	B.S.Pharm.	B.S.For.	B.S.Journ.	TOTALS
1870 to 1891	105	44	65	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	214
1892	6	2	18	4	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	30
1893	12	2	11	5	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	30
1894	8	2	23	5	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	39
1895	10	4	24	3	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	41
1896	8	3	35	....	1	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	48
1897	11	2	44	2	2	....	....	....	....	....	....	5	....	....	....	....	....	....	....	....	....	....	....	....	66
1898	9	5	18	6	....	....	....	....	....	....	1	5	1	....	....	....	....	....	....	....	....	....	....	....	45
1899	12	2	40	7	1	....	....	....	....	....	2	....	2	....	....	....	....	....	....	....	....	....	....	....	66
1900	46	1	9	....	....	....	....	....	....	....	1	1	....	....	....	....	....	....	....	....	....	....	....	....	58
1901	30	....	9	3	....	....	....	....	....	....	1	2	....	....	....	....	....	....	....	....	....	....	....	....	45
1902	25	....	17	8	2	....	....	....	....	....	2	....	....	....	....	....	....	....	....	....	....	....	....	....	54
1903	29	1	10	6	1	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	48
1904	28	....	8	2	2	....	....	....	....	....	2	....	....	....	....	....	....	....	....	....	....	....	....	....	42
1905	20	2	22	4	3	....	....	....	....	....	2	....	....	....	....	....	....	....	....	....	....	....	....	....	53
1906	18	1	17	9	6	....	....	....	....	....	1	....	....	3	....	....	....	....	....	....	....	....	....	....	55
1907	32	3	12	14	4	....	....	....	....	....	2	....	....	8	....	....	....	....	....	....	....	....	....	....	75
1908	20	4	8	6	6	....	....	....	....	....	....	....	....	7	....	....	....	....	....	....	....	....	....	....	51
1909	27	3	2	15	4	....	....	....	....	....	1	....	....	4	....	....	....	....	....	....	....	....	....	....	56
1910	27	6	12	7	5	....	....	....	....	....	....	....	....	1	2	....	....	....	....	....	....	....	....	....	60
1911	27	5	12	6	7	2	....	....	....	....	3	....	....	4	2	....	....	....	....	....	....	....	....	....	68
1912	27	12	17	9	9	....	....	....	....	....	4	....	....	6	....	....	....	....	....	....	....	....	....	....	84
1913	28	9	15	3	1	....	2	....	....	....	3	....	....	....	....	....	....	....	....	....	....	....	....	....	61
1914	28	13	12	4	1	....	5	....	....	....	12	....	....	1	....	....	....	....	....	....	....	....	....	....	76
1915	35	25	14	8	4	1	5	....	....	....	10	....	....	....	....	....	....	....	....	....	....	....	....	....	102
1916	40	8	9	2	4	1	6	....	....	....	10	....	....	....	....	....	....	....	....	....	....	....	....	....	80
1917	62	9	16	5	2	5	....	....	....	....	19	....	....	....	....	1	....	1	....	....	....	1	....	....	121
1918	40	8	5	4	4	1	4	....	....	....	17	....	....	....	....	2	....	....	....	....	....	....	....	....	85
1919	42	11	2	....	1	2	3	....	....	....	5	....	....	....	....	10	....	....	....	....	....	....	....	....	76
1920	79	22	16	11	2	....	5	....	....	....	14	....	....	....	....	17	....	1	....	....	....	2	....	....	169
1921	93	29	12	7	5	5	7	2	1	....	25	....	....	....	....	9	....	3	....	....	....	1	....	....	199
1922	56	48	17	7	5	7	6	3	....	....	18	....	....	....	....	17	....	10	....	....	....	....	....	....	194
1923	125	47	20	4	8	9	9	4	....	....	41	....	....	....	....	19	....	8	....	....	....	....	....	....	294
1924	130	43	18	9	8	2	18	7	1	....	25	....	....	....	....	25	....	11	....	....	....	1	....	....	298
1925	132	53	26	14	3	6	17	6	....	....	19	....	....	....	....	25	....	6	....	....	....	....	....	....	307
1926	169	58	26	19	5	11	9	4	1	....	22	....	....	....	....	19	....	5	1	....	....	2	....	....	351
1927	198	55	37	13	7	10	15	7	....	....	14	....	....	....	....	32	....	1	1	....	....	4	....	....	394
1928	211	48	35	7	3	7	17	4	....	....	15	....	....	....	....	28	5	....	....	....	....	3	....	....	383
1929	230	49	42	8	7	3	15	5	....	....	21	....	....	....	....	31	13	....	3	2	....	....	....	....	430
1930	264	42	42	7	2	3	24	9	....	....	22	....	....	....	....	22	10	....	10	23	1	1	....	....	482
1931	252	42	40	9	4	2	21	7	3	....	23	....	....	....	....	25	5	....	12	37	6	3	....	....	491
1932	209	54	42	11	7	5	17	6	3	....	24	....	....	....	....	39	4	....	14	25	17	2	....	....	479
1933	233	52	45	8	7	4	13	12	5	....	24	....	....	....	....	33	5	....	8	28	21	1	....	....	499
1934	216	48	32	5	5	4	16	10	5	....	18	....	....	....	....	31	3	....	....	19	26	1	....	....	439
1935	202	54	29	7	9	....	20	14	2	....	21	....	....	....	....	40	....	....	....	34	22	1	....	....	455
1936	214	43	44	13	8	7	13	26	3	....	25	....	....	....	....	32	1	....	6	37	25	6	....	....	503
1937	239	23	30	6	5	1	11	21	2	....	24	....	....	....	....	39	....	....	4	52	14	2	....	....	473
1938	249	17	37	7	10	4	15	19	....	....	17	....	....	....	....	36	....	....	13	49	20	7	....	....	500
1939	230	24	35	....	....	5	18	21	1	....	33	....	....	....	....	33	....	....	15	37	33	11	11	....	519
1940	192	30	34	5	19	11	16	31	....	....	47	....	....	....	....	28	....	....	8	30	29	8	12	14	514
1941	218	57	30	3	13	9	15	29	....	....	50	....	....	....	....	40	....	....	14	48	28	7	11	15	587
1942	219	53	28	6	19	5	6	24	....	....	47	....	....	....	....	42	....	....	17	32	15	13	10	16	552
1943	169	54	9	2	9	8	17	23	....	....	33	....	....	....	....	51	....	....	24	32	18	11	5	12	477
1944	108	57	6	9	11	8	14	17	....	....	7	....	....	....	....	45	....	....	14	18	12	6	1	11	344
1945	101	58	4	1	6	....	4	3	....	....	2	....	....	....	....	40	....	....	9	19	7	4	1	8	267
1946	116	83	11	3	7	1	1	5	....	....	12	....	....	....	....	30	....	....	14	20	10	4	3	9	329
1947	189	123	20	5	24	9	21	17	....	....	46	....	....	....	....	41	....	....	17	43	32	8	14	16	625
1948	249	297	53	11	47	11	23	29	....	2	49	....	....	....	....	38	....	....	17	34	36	25	12	26	899
1949	368	64	87	24	72	19	57	42	....	5	80	....	....	....	....	41	....	....	12	61	61	24	26	32	1075
1950	339	363	64	38	103	56	112	52	....	6	96	....	....	....	....	40	....	....	13	98	66	32	65	39	1582
1951	273	274	61	33	74	38	80	48	..	5	87	..	..	..	..	38	..	..	13	100	59	36	46	26	1291
Totals	7114	2455	1544	466	589	282	677	508	27	18	1102	13	3	34	4	1039	46	46	181	878	558	227	217	224	18252

Master's Degrees

YEAR	A.M.	M.S.	LL.M.	M.S.Agr.	M.S.C.E.	M.S.M.E.	M.S.Ch.E.	M.S.E.M.	M.S.E.E.	M.Mus.	M.S.H.E.E.	M.S.W.	TOTALS
1873 to 1891	78	26											104
1892													
1893													
1894	1												1
1895													
1896	1												1
1897	1												1
1898			1										1
1899	3												3
1900	4												4
1901	3												3
1902	4	1											5
1903	4												4
1904	4		2										6
1905	2												2
1906	2												2
1907													
1908	1		2										3
1909	6												6
1910	2		1										3
1911	3												3
1912	1		1										2
1913	2		2										4
1914	1												1
1915	2	1	1										4
1916	5			1									6
1917	5												5
1918	1	2		1	1								5
1919													
1920	4	2											6
1921	5	2											7
1922	11	2											13
1923	13	1				1							15
1924	15	2		2			1						20
1925	14	3		3	2								22
1926	21	3		6			2						32
1927	27	1		5		1	1	1					36
1928	30	3		5			1	2					41
1929	36	5		3			1						45
1930	64	4		7				1					76
1931	39	29			1	1	2						72
1932	33	29			2			1	1				66
1933	46	19			3		2	1	2				73
1934	51	24					1						76
1935	62	23					4		2				91
1936	65	20			1		1						87
1937	76	19					2						97
1938	94	24											118
1939	119	22			1		1		1				144
1940	110	38					8						156
1941	132	39				1	4	1		1			178
1942	125	41					3			2			171
1943	71	14								1			86
1944	28	8											36
1945	23	7											30
1946	44	13						1	1	1			60
1947	105	72					4			1			182
1948	178	90				1	7			2			278
1949	207	88					6	1	1	4	12		319
1950	326	125			2	1	9	3	4		23		493
1951	336	143			2	9	14	1	2		12	9	528
Totals	2346	945	10	33	15	15	74	13	14	12	47	9	3833

Doctor's Degrees

	Doctor of Philosophy
1902	1
1907	1
1932	6
1933	5
1934	3
1935	10
1936	4
1937	2
1938	2
1939	3
1940	4
1941	4
1942	3
1943	3
1945	1
1947	3
1948	2
1949	5
1950	3
1951	6
Total	71

Professional Degrees

YEAR	Civil Engineer	Mechanical Engineer	Electrical Engineer	Chemical Engineer	Engineer of Mines	TOTALS
1889	3					3
1897	1					1
1898	1					1
1909		1	2			3
1915	3					3
1918	1					1
1920	1					1
1921		1				1
1924	1		1			2
1928		1				1
1929		1				1
1930			1			1
1932	1					1
1933	1	1				2
1934				1		1
1937		1				1
1938	1		2			3
1940			1		1	2
1941					1	1
1945			1			1
1946				1		1
1949	1					1
1950					1	1
Totals	15	6	8	2	3	34

Honorary Degrees

YEAR	Doctor of Philosophy	Doctor of Divinity	Doctor of Laws	Doctor of Literature	Doctor of Civil Laws	Doctor of Science	TOTALS
1875	1						1
1883		2	1				3
1885			1				1
1886			3				3
1887		1					1
1888	1	1	2				4
1889	1	2	1				4
1890	2		1				3
1891	1	4	1				6
1892	1	2	1				4
1893			1				1
1894	3	3		1			7
1896	1	1	1				3
1897			1		1		2
1919			15		2		17
1921			1				1
1928			1				1
1929			3				3
1932			2				2
1933			2				2
1934			1				1
1937			1				1
1938			1			1	2
1939			1	1			2
1940			3			1	4
1941			1				1
1942			3			1	4
1945			1			1	2
1948			1				1
1949			3			1	4
1951						1	1
Totals	11	16	54	2	3	6	92

THE CLASSIFIED ENROLLMENT

A. The Summer Session, 1951

Colleges and Schools	Senior			Junior			Sophomore			Freshman			Total			Special			Grand Total		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Agr., For., and H. E.	40	20	60	34	17	51	14	6	20	8	3	11	96	46	112	3	3	6	99	49	148
Arts and Sciences	138	30	168	103	31	134	86	24	110	45	14	59	372	99	471	27	11	38	399	110	509
Education	35	23	58	15	12	27	.....	.....	.....	.....	.....	.....	50	35	85	1	.....	1	51	35	86
Engineering	66	.....	66	47	.....	47	32	.....	32	14	.....	14	159	.....	159	1	.....	1	160	.....	160
Graduate	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	993	510	1,503	69	51	120	1,062	561	1,623
Journalism	10	2	12	4	1	5	.....	.....	.....	.....	.....	.....	14	3	17	.....	.....	.....	14	3	17
Law	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Medicine	1	9	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	9	10	.....	.....	.....	1	9	10
Mines	33	.....	33	18	.....	18	10	.....	10	.....	.....	.....	61	.....	61	.....	.....	.....	61	.....	61
Music	8	1	9	3	4	7	.....	2	2	.....	3	3	11	10	21	.....	1	1	11	11	22
Pharmacy	10	1	11	3	6	9	4	.....	4	.....	.....	.....	17	7	24	.....	.....	.....	17	7	24
Phys. Ed. and Ath.	17	4	21	6	7	13	7	6	13	6	.....	6	36	17	53	.....	.....	.....	36	17	53
Total	358	90	448	233	78	311	153	38	191	73	20	93	1,810	736	2,546	101	66	167	1,911	802	2,713

B. The First Semester (September to January), 1951-52

Agr., For., and H. E.	99	43	142	106	39	145	74	39	113	81	59	140	360	180	540	2	5	7	362	185	547
Arts and Sciences	265	69	334	286	95	381	355	167	522	413	203	616	1,319	534	1,853	28	25	53	1,347	559	1,906
Education	46	37	83	29	43	72	.....	.....	.....	.....	.....	.....	75	80	155	.....	2	2	75	82	157
Engineering	125	.....	125	143	.....	143	106	.....	106	106	2	108	480	2	482	1	.....	1	481	2	483
Graduate	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	370	157	527	13	7	20	383	164	547
Journalism	17	8	25	10	3	13	.....	.....	.....	.....	.....	.....	27	11	38	2	.....	2	29	11	40
Law	52	1	53	50	1	51	65	2	67	.....	.....	.....	167	4	171	.....	.....	.....	167	4	171
Medicine	28	14	42	32	9	41	.....	.....	.....	.....	.....	.....	60	23	83	1	.....	1	61	23	84
Mines	32	.....	32	33	.....	33	25	.....	25	7	.....	7	97	.....	97	.....	.....	.....	97	.....	97
Music	10	2	12	8	14	22	6	15	21	5	22	27	29	53	82	.....	2	2	29	55	84
Pharmacy	20	4	24	15	5	20	23	9	32	12	6	18	70	24	94	.....	.....	.....	70	24	94
Phys. Ed. and Ath.	46	15	61	30	33	63	27	13	40	35	12	47	138	73	211	.....	.....	.....	138	73	211
Total	740	193	933	742	242	984	681	245	926	659	304	963	3,192	1,141	4,333	47	41	88	3,239	1,182	4,421

C. The Second Semester (January to June), 1951-52

Colleges and Schools	Senior			Junior			Sophomore			Freshman			Total			Special			Grand Total		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Agr., For., and H. E.	95	38	132	93	39	133	64	33	97	67	56	123	319	166	485	1	5	6	320	171	491
Arts and Sciences	251	69	320	270	87	357	315	161	476	344	181	525	1,180	498	1,678	34	36	70	1,214	534	1,748
Education	46	35	81	28	47	75	.....	.....	.....	.....	.....	.....	74	82	156	.....	1	1	74	83	157
Engineering	127	2	129	120	.....	120	84	.....	84	100	.....	100	431	2	433	3	.....	3	434	2	436
Graduate	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	348	192	540	12	10	22	360	202	562
Journalism	12	7	19	16	3	19	.....	.....	.....	.....	.....	.....	28	10	38	2	.....	2	30	10	40
Law	56	1	57	46	1	47	52	2	54	.....	.....	.....	154	4	158	1	.....	1	155	4	159
Medicine	28	12	40	30	11	41	.....	.....	.....	.....	.....	.....	58	23	81	1	.....	1	59	23	82
Mines	27	.....	27	29	.....	29	22	.....	22	15	.....	15	93	.....	93	.....	.....	.....	93	.....	93
Music	9	5	14	6	12	18	7	14	21	5	17	22	27	48	75	.....	2	2	27	50	77
Pharmacy	18	5	23	17	6	23	17	9	26	11	4	15	63	24	87	.....	.....	.....	63	24	87
Phys. Ed. and Ath.	40	13	53	28	30	58	32	13	45	31	13	44	131	69	200	.....	.....	.....	131	69	200
Total	709	187	895	683	236	920	593	232	825	573	271	844	2,906	1,118	4,024	54	54	108	2,960	1,172	4,132

D. The Academic Year (September to June), 1951-52

Agr., For., and H. E.	101	43	144	109	42	151	76	39	115	83	63	146	369	187	556	2	6	8	371	193	564
Arts and Sciences	268	70	338	296	98	394	365	174	539	442	213	655	1,371	555	1,926	44	49	93	1,415	604	2,019
Education	47	37	84	30	44	74	.....	.....	.....	.....	.....	.....	77	81	158	.....	3	3	77	84	161
Engineering	126	.....	126	145	.....	145	111	.....	111	107	2	109	489	2	491	3	.....	3	492	2	494
Graduate	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	429	232	661	19	14	33	448	246	694
Journalism	17	8	25	11	3	14	.....	.....	.....	.....	.....	.....	28	11	39	2	.....	2	30	11	41
Law	52	1	53	51	1	52	67	2	69	.....	.....	.....	170	4	174	.....	.....	.....	170	4	174
Medicine	28	14	42	32	9	41	.....	.....	.....	.....	.....	.....	60	23	83	1	.....	1	61	23	84
Mines	32	.....	32	34	.....	34	26	.....	26	8	.....	8	100	.....	100	.....	.....	.....	100	.....	100
Music	10	3	13	8	14	22	7	16	23	5	22	27	30	55	85	.....	2	2	30	57	87
Pharmacy	20	4	24	15	5	20	23	9	32	12	6	18	70	24	94	.....	.....	.....	70	24	94
Phys. Ed. and Ath.	48	16	64	33	35	68	29	14	43	39	12	51	149	77	226	.....	.....	.....	149	77	226
Total	749	196	945	764	251	1,015	704	254	958	696	318	1,014	3,342	1,251	4,593	71	74	145	3,413	1,325	4,738

E. The Summary for 1951-52

Colleges and Schools	Senior			Junior			Sophomore			Freshman			Total			Special			Grand Total		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Agr., For., and H. E	115	48	163	111	43	154	77	39	116	84	63	147	387	193	580	3	9	12	390	202	592
Arts and Sciences	319	88	407	304	105	409	378	176	554	448	217	665	1,449	586	2,035	61	54	115	1,510	640	2,150
Education	64	49	113	31	47	78							95	96	191	1	3	4	96	99	195
Engineering	154		154	147		147	113		113	109	2	111	523	2	525	4		4	527	2	529
Graduate													1,212	641	1,853	75	70	145	1,287	711	1,998
Journalism	21	8	29	12	3	15							33	11	44	2		2	35	11	46
Law	52	1	53	51	1	52	67	2	69				170	4	174				170	4	174
Medicine	28	15	43	32	9	41							60	24	84	1		1	61	24	85
Mines	49		49	36		36	27		27	8		8	120		120				120		120
Music	12	3	15	8	15	23	7	16	23	5	22	27	32	56	88		2	2	32	58	90
Pharmacy	24	5	29	15	5	20	24	9	33	13	6	19	76	25	101				76	25	101
Phys. Ed. and Ath	54	16	70	33	37	70	29	17	46	41	12	53	157	82	239				157	82	239
Total	892	233	1,125	780	265	1,045	722	259	981	708	322	1,030	4,314	1,720	6,034	147	138	285	4,461	1,858	6,319

Extension and Short Courses

COURSES AT MORGANTOWN:			
Appalachian Gas Measurement Short Course	525		525
Artificial Breeding Short Course	3		3
Coal Mining Short Course	21		21
Coal Preparation Short Course	9		9
Fire School	165		165
Industrial Engineering Conference	94		94
Instruction for Institutional On-The-Farm Instructors	111		111
Junior Farmers Week	264		264
Market Milk Short Course	22		22
Total Enrollment at Morgantown	5,675	1,858	7,533
University Extension of Collegiate Grade (Not Counted Elsewhere)	319	650	969
Total Enrollment in Extension Counted Once Only (Men 507 Women 757 Total 1,264)			
EXTENSION			
Coal Mining Night Classes	1,274		1,274
Coal Mining Short Course	28		28
Dairy Farming Short Course	1,175		1,175
Fire Service	658		658
Mine Maintenance	52		52
Oil and Gas	54		54
Time and Motion Study	30		30
Chemical Process Instrumentation	41		41
Grand Total	9,306	2,508	11,814

7288

THE GEOGRAPHICAL DISTRIBUTION OF RESIDENTS ENROLLMENT 1951-52

By West Virginia Counties

Barbour	82	Mineral	89
Berkeley	39	Mingo	58
Boone	34	Monongalia	1103
Braxton	41	Monroe	36
Brooke	79	Morgan	28
Cabell	57	Nicholas	58
Calhoun	24	Ohio	240
Clay	25	Pendleton	17
Doddridge	33	Pleasants	31
Fayette	147	Pocahontas	50
Gilmer	43	Preston	202
Grant	31	Putnam	22
Greenbrier	101	Raleigh	147
Hampshire	41	Randolph	135
Hancock	131	Ritchie	68
Hardy	32	Roane	54
Harrison	444	Summers	38
Jackson	37	Taylor	62
Jefferson	18	Tucker	56
Kanawha	504	Tyler	24
Lewis	80	Upshur	42
Lincoln	11	Wayne	19
Logan	80	Webster	39
Marion	333	Wetzel	74
Marshall	92	Wirt	17
Mason	20	Wood	142
McDowell	88	Wyoming	47
Mercer	131		
		Total	5676

By States and Foreign Countries

Alabama	1	Maryland	72
California	3	Massachusetts	6
Canada	1	Michigan	1
Canal Zone	1	Minnesota	1
China	4	Mississippi	2
Chile	1	Missouri	3
Colorado	1	Montana	2
Connecticut	7	New Hampshire	1
Cuba	1	New Jersey	21
District of Columbia	6	New Mexico	1
El Salvador	1	New York	35
England	2	North Carolina	1
Florida	5	Ohio	55
Georgia	2	Pennsylvania	349
Germany	3	Puerto Rico	1
Greece	2	Rhode Island	1
Idaho	3	Tennessee	1
Illinois	5	Turkey	2
Iowa	1	Virginia	25
Kansas	1	Yugoslavia	1
Kentucky	7	West Virginia	5676
Korea	1		
Lebanon	2	Total	6319
Maine	1		

INDEX

A

Abbreviations 66
Absences 45, 64
Absentia work 63
Academy of Science 19
Accreditation 13
Administrative Officers 5
Administration, Council of 14
Admission 47, 50, 51
Admissions, Committee on 6
Advanced standing 52
Advertising-management curriculum 294
Adviser: agriculture 71; arts and sciences 119; duties of 45, 55; education 50, 213; fraternity 44; graduate work 281; home economics 107; sorority 44
Aeronautical engineering 231, 243
Agricultural biochemistry 84
Agricultural economics 84
Agricultural engineering 85, 86, 231, 245
Agricultural Experiment Station 13, 15, 67
Agricultural Extension Division 15, 68
Agricultural mechanics 73, 86
Agricultural science 81
Agriculture 67, 84
Agriculture, general 77
AGRICULTURE, FORESTRY, AND HOME ECONOMICS, THE COLLEGE OF:
- Buildings and equipment 69
- Cooperative extension work 68
- Courses 83, 104, 111
- Courses credited toward A.B. degree 120
- Experiment Station 67; branch stations 68
- Faculty committees 71
- General information 15, 67
- Graduate work 83
- History 67
- Requirements for degrees 71
- Science curriculum 72, 81
- Station staff committees 71
- Student activities 70
- Two-year curriculum 83

Agronomy 87
Aid to students 46
Anatomy 313
Animal husbandry 89
Animal pathology 90
Applied art 114
Applied music 326, 333, 334
Arrangement of courses 66
Art 135
Arts and law course 125
Arts and medicine course 126
ARTS AND SCIENCES, THE COLLEGE OF:
- Advisers 119
- Associate in Arts 120
- Courses 131
- Courses recommended 118
- Electives in other colleges 121
- General information 15, 117
- Junior Certificate, Special provisions for the 118
- Major subject, The 118
- Objectives, Main 117
- Opportunity for specialization 118
- Organization and purpose 117
- Preprofessional courses 123
- Requirements for degrees 119
- Standing committees 119

Assemblies 25
Associated Women Students 21
Associations 21, 27
Athletics: trophies 39; intramural 22; intercollegiate 23
Auditors 54

B

Baccalaureate degrees: list of 62-63; requirements for 60
Bachelor of Arts Degree: arts and law 125; arts and medicine 126; regular course 121; requirements for 120
Bachelor of Laws Degree: requirements for 62, 300
Bachelor of Music Degree: requirements for 63, 324
Bachelor of Science degrees: combined 126
Bacteriology 88, 92, 94, 314
Band instruments 333
Bands, R.O.T.C. 17
Bands, University 28
Bar, Admission to 299
Biochemistry 314
Biological sciences, Introductory course 133
Biological Survey 19
Biology 136
Biometry 84
Board of Governors 4, 14
Board of Governors scholarships, Committee on 6
Board and lodging 21
Book store 18
Botany 138
Broadcasting 25
Buildings 13; Committee on 6; Buildings and Grounds, Committee on 6
Business 203, 207

C

Cafeteria 18
Calendar 393
Camp counselors 346
Camp Wood 97
Campus, Map of 8-9
Ceramic engineering 247
Certificate, Agriculture 83
Certificate, Junior 118
Chemical engineering 247, 264
Chemistry 141
Child care 114
Church centers 26
Civil engineering 247, 268
Classical civilization 146
Classics 144
Class load 55
Classification of students 62
Clothing 114
Clubs 42
Coal mining 232, 257, 278
Colleges and schools 15
Combined courses in two colleges 125, 126
COMMERCE, THE COLLEGE OF:
  Admission Requirements 203
  Courses 208
  General Information 202
  Graduate Program 203
  Programs of Study:
    Accounting 204
    Economics 205
    Finance 205
    Management 206
    Marketing 206
    Secretarial Studies 207
    General Business 207
Committees 6
Conditional admissions 48
Conservation 107
Contents, Table of 3
Convocations 25; Committee on 6
Correspondence work, Credit in 63
Costs 53-60
Council of Administration 14
Credits, Definition of: college 54; entrance 47
Credits required for baccalaureate degree: all colleges 60-63
Cultural activities 25
Curricula and courses 66

D

Dairy husbandry 75, 91
Dean of women 20
Degrees, Baccalaureate 60
Degrees, Classification of 62-63
Degrees conferred, 1870-1951: bachelor's 380; master's 381; doctor's 382; honorary 382
Degrees, General regulations 60
Degrees, Graduate 52, 281
Degrees: *See* under name of college or school
Degrees, Professional 52
Degrees, Residence requirements for: graduate 282; undergraduate 61
Degrees, Undergraduate 60
Delinquent students 45
Deposits 59
Description of the University 11
Director of Student Affairs 20
Discipline 45; Committee on 6
Discipline 45; Committee on 6
Dispensary 23
Doctor's degree requirements 285
Dormitories 21
Drawing 253
Duties of advisers, of Committee on Scholarship, of instructors 46

E

Economics and business administration See Commerce 202
EDUCATION, THE COLLEGE OF:
  Admission 50, 213
  Courses 222
  Degree requirements 214
  General information 15, 213
  Graduate advisers 215
  Graduate professional curricula 215 221
  Laboratory Elementary School 213
  Maximum work 214
  University High School 213
Elective units 48-49
Electrical engineering 251, 270
Eligibility, Committee on 6
Eligibility for activities 20
Employment service 47
ENGINEERING AND MECHANIC ARTS, THE COLLEGE OF:
  Courses 262
  Courses credited toward A.B. degree 120
  Extension in industrial sciences 232
  General information 15, 231
  Graduate curricula 261
  Mining and Industrial Extension 15, 232
  Requirements for degrees 241
  Special engineering curricula 261
  Undergraduate curricula 241
Engineering Experiment Station 15, 231
English: courses 150
Enrollment, Summary of 384
Enrollment, Geography of 385

Ensemble courses 333
Entomology 92
Entrance 47
Entrance unit defined 48
Examinations 64
Executive Committee of the Senate 6
Executive Committee, Graduate School 281
Exemptions, Military 17
Expenses 56-60
Experiment Station, Agricultural 15, 67; Engineering 15, 231
Extension courses; agriculture 15, 68; arts and sciences 15; education 15; mining and industrial education 15, 232; home economics 69
Extension, Standing Committee on University 6; organization of 18; fee for 58
Extension, University 18

F

Faculty, University 358, graduate 14; organizations 44
Failure in course 64
Farms, Experimental 13-14
Fees 56-59
Fellowships 35
Fire Service Extension School 233
Foods and nutrition 111
Forestry 96-107
Forestry Club 97
Forest management 101-103
Forest utilization 103-104
Forensic activities 25
Founding of University 11
Foundations, Religious 26
Fraternities 43; advisers 44
Fraternity and Sorority Scholastic Records, Committee on 6
French 185
Full-time student fees 57
Funds 14

G

Gas engineering 259
Gas Measurement Short Course 232
General engineering 273
General information 11
Genetics 75, 88
Geography 159
Geological and Economic Survey 19
Geological engineering 259
Geology, mineralogy, and geography 156
German 159
Gifts 28
Governing boards 4, 14
Governmental associations, Student 21
Government of the University 14
Grade points 65
Grades, Reports on 64
Grading, System of 65
Graduate degrees 52, 281-282
THE GRADUATE SCHOOL
  Admission 52
  Adviser, the 281
  Degrees 52; requirements for 282
  Executive committee 282
  Faculty 14
  General information 281
  General regulations 282
  Graduate degrees 281-282
  Organization 281
  Part-time students 283
  Professional degrees 282
  Student Body, The 281
Graduation with honors 61
Grants 29
Greek 146
Grounds 13

H

Health education 351
Health and child care 114
Health Service, Student 23
High School, University, Work of 213
History 161
History of University 11
Home Economics 107-116; education 115
Home economics in Arts and Sciences curriculum 164
Home Management 115
Honor societies 40
Honorary degrees conferred 381
Horticulture 77-78; 92
Hospital service 23
Humanities course 132

I

In absentia work 63
Industrial engineering 255
Industrial Engineering Conference 233
Industrial extension 15, 232
Infirmary 24
Institutions associated with the University 19
Instructional policies and practices, Committee on 6
Instructional staff 358
Instructors, duties of 46
Instrument classes 314
Integrated studies 131
Intercollegiate Relations, Committee 6
Intecollegiate athletics 23
Institution management 112
Interpretation 196
Intramural athletics 22

Introductory courses 131
Italian 186

J

JOURNALISM, THE SCHOOL OF:
Admission 50
Aims 287
Broad educational foundation, The 291
Courses 296
English, Proficiency in 291
General information 15, 287
Graduate study 293
Location and equipment 288
Minor field 292
Non-journalism majors, Courses open to 290
Organizations 290
Placement of graduates 289
Practice opportunities 288
Professional relations and services 289
Requirements for the degree 291
Standards 287
Typewriting and shorthand 291
Junior Certificate 118

L

Laboratory Elementary School 213
Laboratory deposits 59
Languages and literatures: classics 114; English 148; German 159; romance 184
Landscaping 78
Late registration 54
Latin 145
LAW, THE COLLEGE OF:
Admission 50
Advanced standing 52
Bar, Admission to the 299
Building 299
Combined course 125
Courses 301
General information 15, 299
Library, The Law 299
Students in other colleges admitted to law courses 300
Law Review, West Virginia 300
Library science 167
Library 17; standing committee 6
Living accommodations 21
Loan funds 35
Location of University 13
Lodging 21
Lower division, College of Arts and Sciences 121-122

M

Marriage, Student 46
Master's degrees, Requirements 284
Mathematics 168
Maximum and minimum work 55
Mechanical engineering 253, 273
Mechanics 277
Medals 40
Medical service 23
Medical technology 129, 317
Medicine 304
MEDICINE, THE SCHOOL OF:
Admission 51
Buildings and equipment 305
Clinical and special facilities 305
Combined courses 122
Courses 313
Degrees 310
Fees 56-58
General information 15, 304
Library 305
Medical curriculum 304
Organizations and lectureships 306
Proposed expansion 304
Seminar 306
Membership, Committee on 6
Men's dormitory 21
Metallurgy 247
Midsemester reports 64
Military bands 17
MILITARY AND AIR SCIENCE AND TACTICS, THE DIVISION OF:
Administration and instruction 15
Courses 321
Mineralogy 156
MINES, THE SCHOOL OF:
Courses 278
Courses credited toward A.B. degree 121
General information 15, 231
Mines, U.S. Bureau of 239
Mining extension 15, 232
Mining engineering 259-261
Mountainlair 21
MUSIC, THE SCHOOL OF:
Admission 51
Advanced standing 53
Concerts and recitals 324
Courses 330
Courses credited toward A.B. degree 121
Fees 56-59
General information 15, 320
Graduate courses 317
Requirements for the degree 324
Special students 324
Music organizations 27

N

News-editorial curriculum 294
Numbering courses, plan for 55, 66
Nursing education 128, 172

O

Obstetrics 315
Off-campus Schedules, Committee on 6
Officers of the University 5
Oil and gas engineering 259
Oil and gas extension classes 233
Orchestra, University 27
Orchestral instruments 314
Organization of the colleges, schools, and divisions 15
Organizations and societies 40
Ornamental horticulture 77-78; 92

P

Part-time student fees 57
Pathology 315
Petroleum engineering 259
Pharmacists register 47
Pharmacology 316
PHARMACY, THE COLLEGE OF:
  Advanced standnig 53
  Aims and purposes 336
  Courses 341
  Fees 56-59
  General information 15, 336
  Laboratories 337
  Library and reading room 338
  Opportunities in the pharmaceutical profession 336
  Pharmaceutical associations 338
  Reciprocity 338
  Requirements for the degree 339
  Requirements for the practice of pharmacy in West Virginia 338
  Service to pharmacists of the State 338
  Women in pharmacy 336
Pharmacy, University 23
Philosophy 175
Physical education, service programs 22, 345
PHYSICAL EDUCATION AND ATHLETICS, THE SCHOOL OF:
  Camp counselor recommendations 346
  Courses 351
  Courses credited toward A.B. degree 121
  Facilities 344
  General information 15, 344
  Intramural athletics 22, 345
  Organization 344
  Recreation, Requirements for the degree 349; courses 355
  Requirements for degrees 347
  Service programs 345
  Standing committees, The 346-347
Physical plant 13
Physical sciences, Instructory course 134
Physical training 22
Physics 178
Physiology 316-317
Piano 324, 332
Pipe organ 324, 332
Placement guidance 47
Plant pathology 94
Political science 181
Portugese 187
Poultry husbandry 90
Power engineering 251
Practice court 301
Practice teaching 213
Predental courses 122-124
Pre-education course 127
Prejournalism course 128
Prelaw course 125
Premedical course 122
Prenursing curriculum 128
Preprofessional social work 129
Prescribed and elective units 48-49
Pre-veterinary medicine 124
Prizes 37
Prizes, Scholarships, and Loan Funds Committee on 6
Probation rules 45
Professional curricula, Graduate 215
Professional degrees in engineering 261
Professional societies 40-42
Psychology 176
Public hygiene 314
Public-school music 328
Public speaking 197
Publications, Student: List of 28
Publications, University: Committee on 6; list of 20.

R

Radio, courses 198
Recitals 324
Recreation 21, 349, 355
Re-entry after withdrawal 54
Refunding of fees 59
Registration 54
Registration fees 57
Religious foundations and societies 26
Remsion of fees 56
Requirements for degrees 60; *see* "Requirements for the Degree" under name of college or school
Reports 63
Research, Committee on 6
Research, Graduate School 283
Residence requirements: Graduate School 282; undergraduate colleges and schools 61
Residence halls 21
Return of books to Library 56
Romance languages and literatures 184
Rooms and boarding places 21

Rules and regulations 45
Rural organization 95
Rural sociology 84

S

Sanitary engineering 249, 268
Schedules 66
Scholarships 29
Scholarships, Committees on 46
Scholastic standing 65
Senate committees 6
Service programs in physical education 22, 345
Short courses and special schools 69
Social center for women 25
Social life of students 24; Committee on 6
Social sciences, Introductory course 133
Social work 187; preprofessional 129
Societies, Honor 40
Sociology 193
Soils 87
Sororities 42-44
Space allocation, Committee on 6
Spanish 185
Special admsision requirements 50
Special fees 58
Special students 49
Speech 194; re-education 199
Speech Rehabilitation Clinic 24
Staff of instruction, research and extension 358
Standing, Advanced 52
Standing committees: University 6
State Road Commission 20
Student affairs, Committee on 6; director of 20
Student aid
Student Body, Committee on 6
Student center 21
Student concerts 27-28; 324
Student deans 20
Student Fee Fund, Committee on 7
Student Health Service 23
Student marriage 46
Student organizations 40; Committee on 7
Student placement 47
Student publications 28; Committee on 7
Student Residences, Committee on 7; subcommittee on new residences 7
Student social life 24
Student teaching 213
Student welfare 20
Substitution for required courses 55
Summary of University enrollment 384
Summer Session 15
Surgery, Introductory 317
Suspension 45

T

Teachers' certificates 127
Teacher training, Committee on 6
Tenure and retirement, Committee 6
Textiles and clothing 113
Theatre 199
Theory of music 327-328
Trophies 39
Tuition, Rates of 56-59

U

Undergraduate requirements for admission 47
Units, Entrance 48-49
University High School: work of 213
University Players 25
University publications 20
Upper division, Arts and Sciences 122

V

Veterans 53
Violin 332
Visitors 54
Vocational agriculture 80
Vocational home economics 109
Vocational mining extension 232
Voice 332

W

Welfare, Student 20
Wildlife management 101-103
Withdrawal from the University 54
Woman's Hall 21
Women, Dean of 20
Women, Living Accommodations for 21

Y

Y.M.C.A. 27
Y.W.C.A. 27

Z

Zoology 139

UNIVERSITY CALENDAR

1952

May 31, Saturday ..... Alumni Day
June 1, Sunday ..... Baccalaureate Exercises
June, 2 Monday ..... Commencement Day
June 4, Wednesday ..... Registration for first term, Summer Session
June 5, Thursday ..... First classes, first term, Summer Session
July 4, Friday ..... Independence Day, a holiday
July 15, Tuesday ..... Close of first term, Summer Session
July 16, Wednesday ..... Registration for second term, Summer Session
July 17, Thursday ..... First classes, second term, Summer Session
August 22, Friday ..... Close of Summer Session*
September 10, Wednesday to September 16, Tuesday ..... Freshman Week Program
September 15 and 16, Monday and Tuesday ..... Registration for first semester
September 17, Wednesday ..... First classes, first semester
October 14, Tuesday ..... Meeting of University Senate
November 4, Tuesday ..... Election Day, a holiday
November 10, Monday ..... Midsemester reports due
November 27, Thursday ..... Thanksgiving Day, a holiday
December 20, Saturday, to January 4, Sunday, inclusive ..... Christmas recess

1953

January 19, Monday, to January 24, Saturday, inclusive
Final examinations for first semester
February 2, Monday and February 3, Tuesday ..... Registration for second semester
February 4, Wednesday ..... First classes, second semester
February 7, Saturday ..... West Virginia University Day
February 10, Tuesday ..... Meeting of University Senate
March 30, Monday ..... Midsemester reports due
April 3, Friday to April 7, Tuesday, inclusive ..... Easter recess
May 12, Tuesday ..... Meeting of University Senate
May 23, Saturday to May 29, Friday ..... Final Examinations for second semester
May 30, Saturday ..... Alumni Day
May 31, Sunday ..... Baccalaureate Exercises
June 1, Monday ..... Commencement Day

* Classes will be held August 9 and 16.

48
1952-1953